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standard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur

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Buildings in the News
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Architectural Appointments Wanted and Vacant

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Registered as a Newspaper.

★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square. Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100 Park Street, Grosvenor Square, W.1. Mayfalr 7086
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1. Museum 1783
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand W.C.2. Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197
IQS	Institute of Quantity Surveyors, 98, Gloucester Place, W.1. Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1. Abbey 6172
ISE	Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
LDA	Lead Development Association. Eagle House, Jermyn Street, S.W.1. Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1. Whitehall 7264/4175
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. Trafalgar 7711
MARS	Modern Architectural Research Group (English Branch of CIAM). Secretary : Trevor Dannatt, A.R.I.B.A., 71, Blandford Street, W.1. Welbeck 4713
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1. Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1. Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300
MOLNS	Ministry of Labour and National Service. 8, St. James' Square, S.W.1. Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2 Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1. Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1. Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1. Welbeck 0619
NCBMP	National Council of Building Material Producers. 10 Storey's Gate, S.W.1. Abbey5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4451
NFHS	National Federation of Housing Societies 12, Suffolk St., S.W.1. Whitehall 1693
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1. Langham 4341
NPL	National Physical Laboratory. Head Office, Teddington. Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1. Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1. Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1. Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, S.W.1. Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1. Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1. Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3. Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, London, W.C.1. Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1. Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4. City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1. Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4. City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1. Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1. Grosvenor 6636

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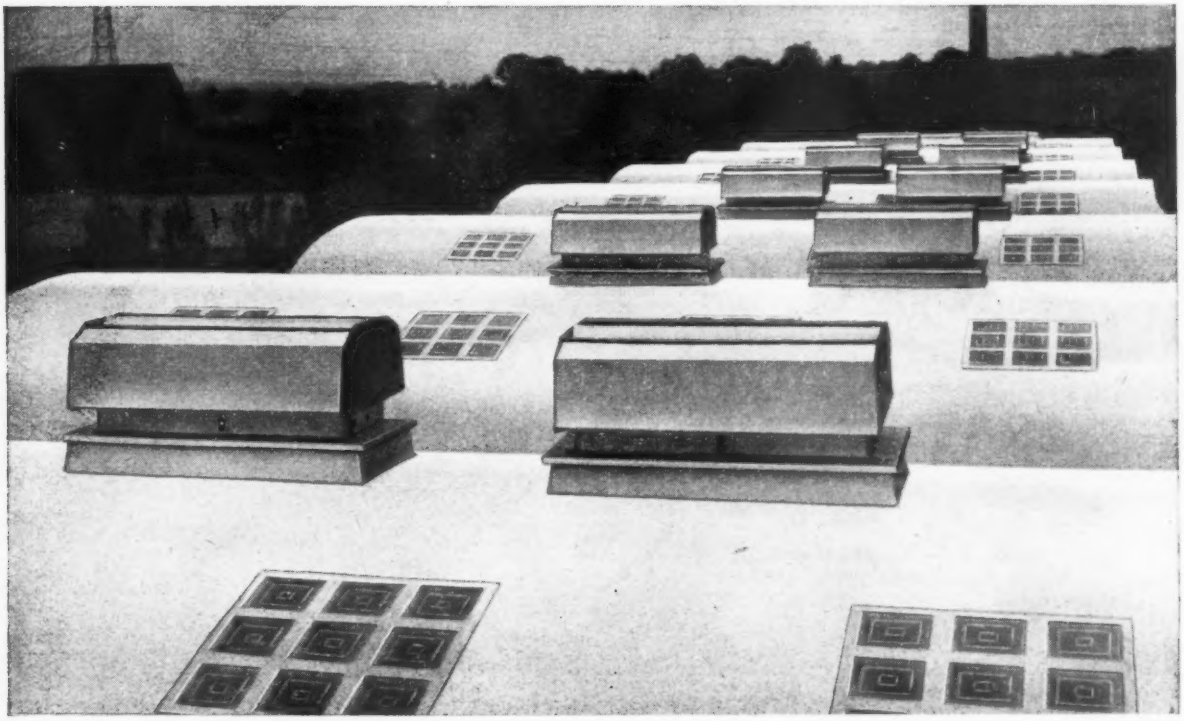
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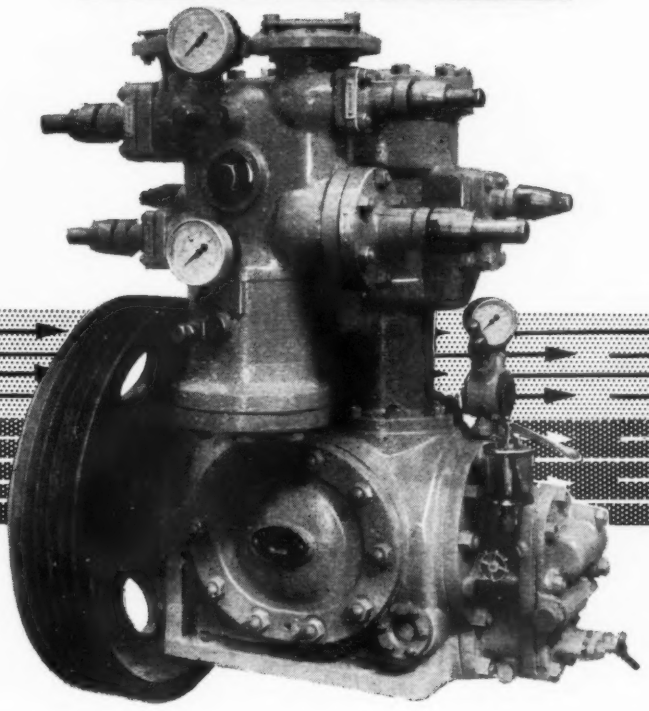
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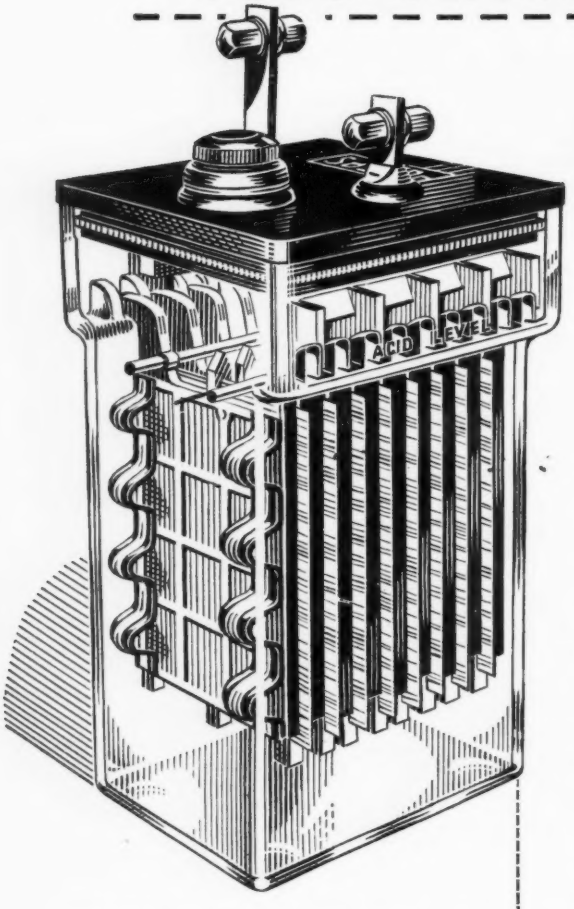
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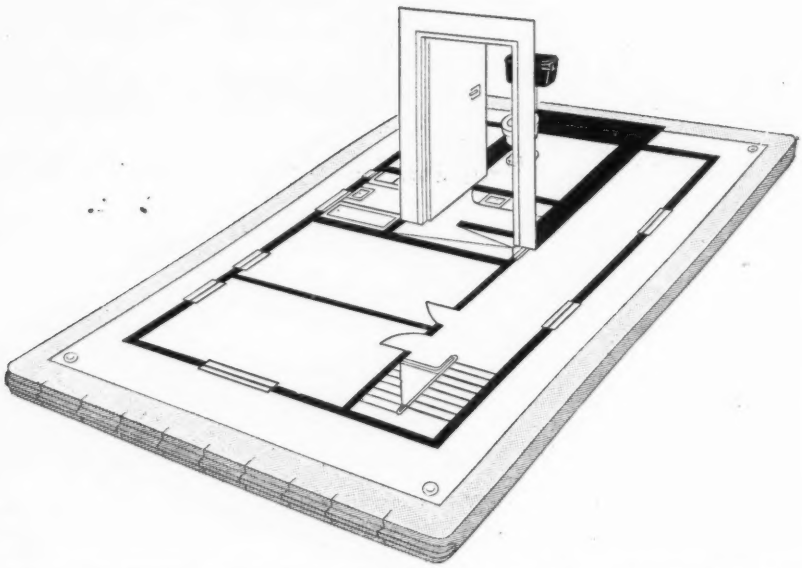
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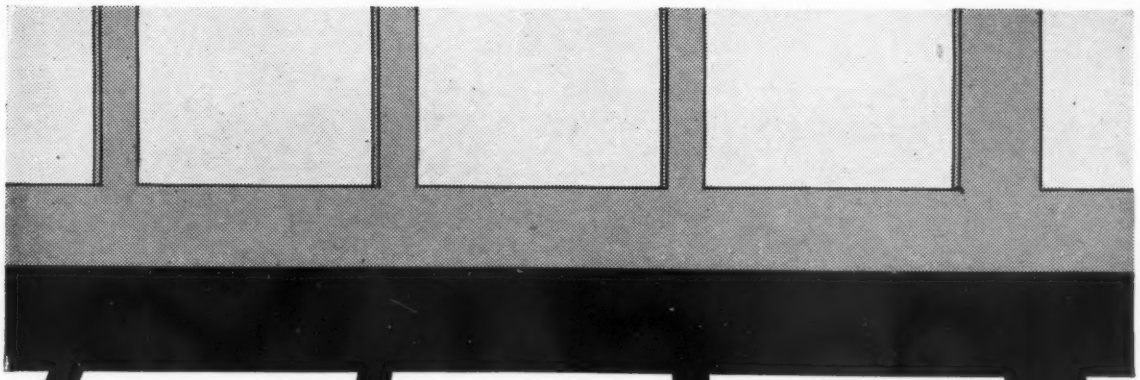




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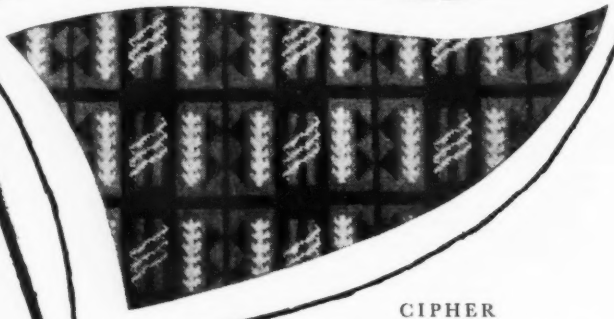
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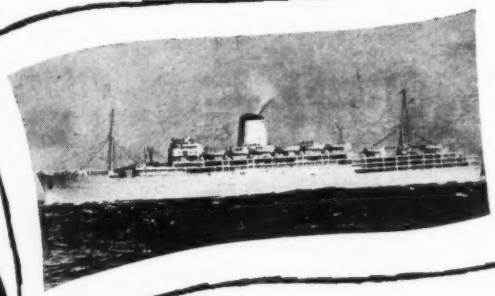
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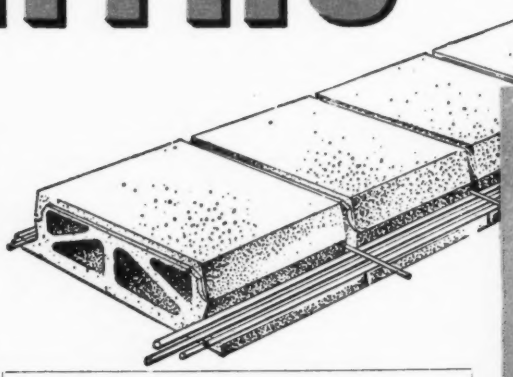
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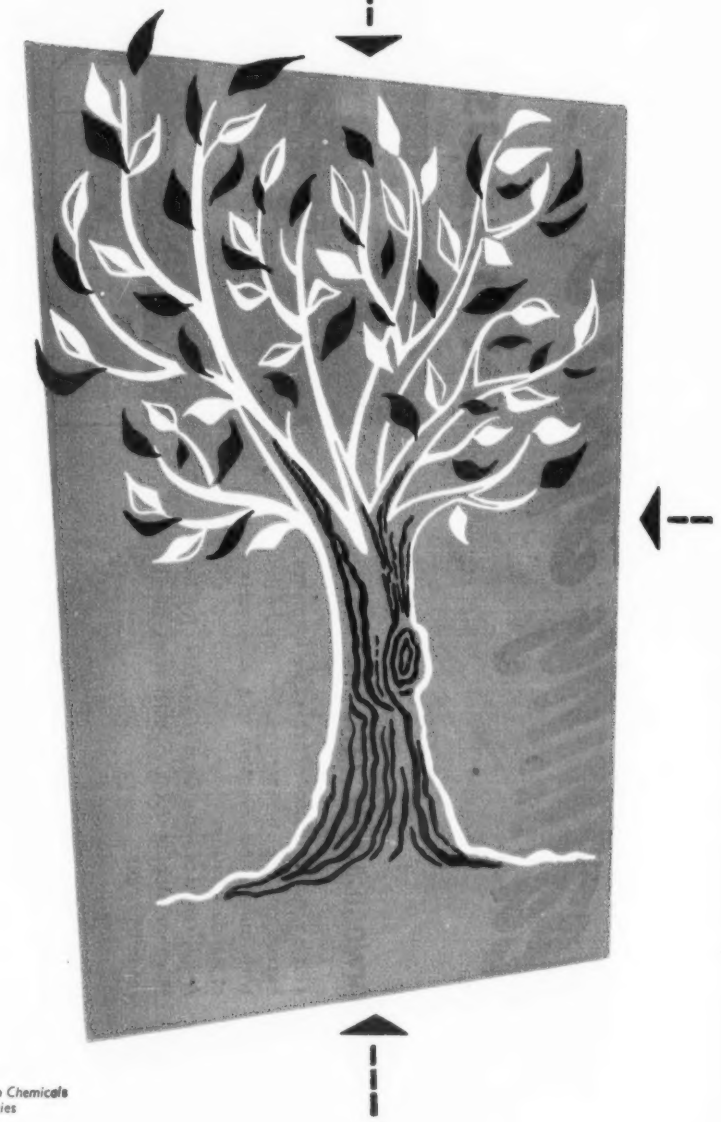
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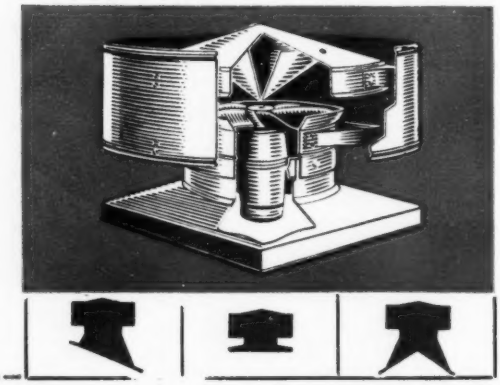
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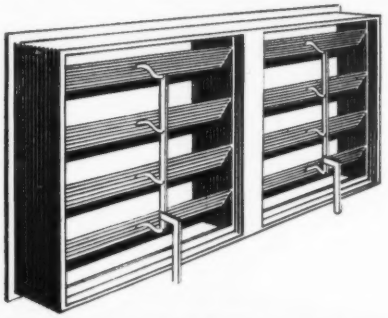
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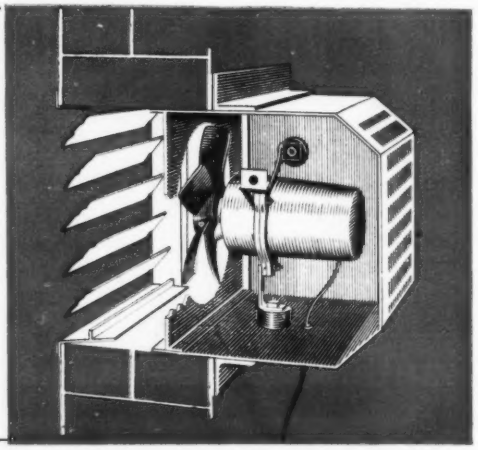
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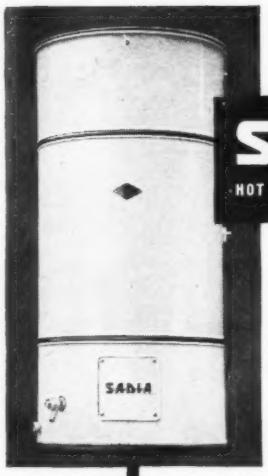
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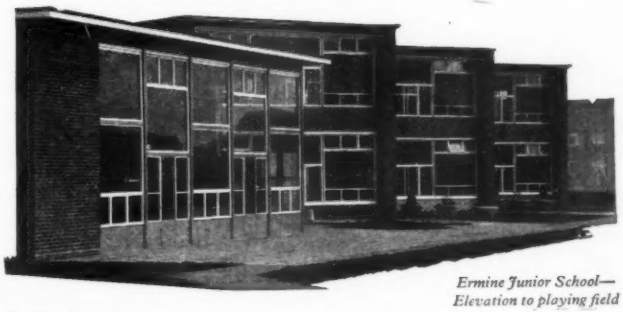
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Ermine Infants' School—Washing hands before lunch

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The Finch "Clofit"



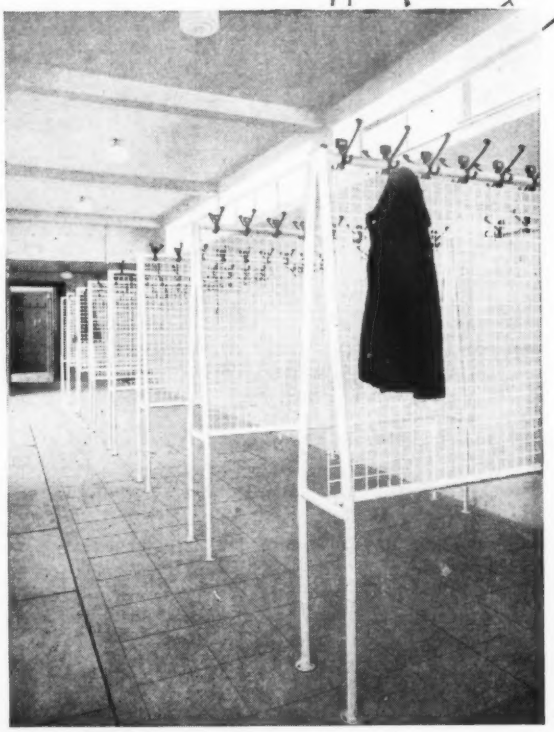
solves the cloakroom problem

VERSATILE For permanent or temporary installation, and in a variety of heights—"Clofit" provides the ready-made answer.

INEXPENSIVE Mass demand enables us to produce the "Clofit" units on a mass-production basis—you benefit by getting individually tailored units at an incomparably low price.

ADAPTABLE Each basic unit can easily be modified for specific industrial needs.

The Research and Development Division of the Finch Organization conceived and developed these versatile and adaptable cloakroom units in conjunction with a number of leading architects and civic authorities. The result is a range of units that provide a complete answer for any municipal or industrial cloakroom problem in a form that can be accommodated within most cloakroom plans.

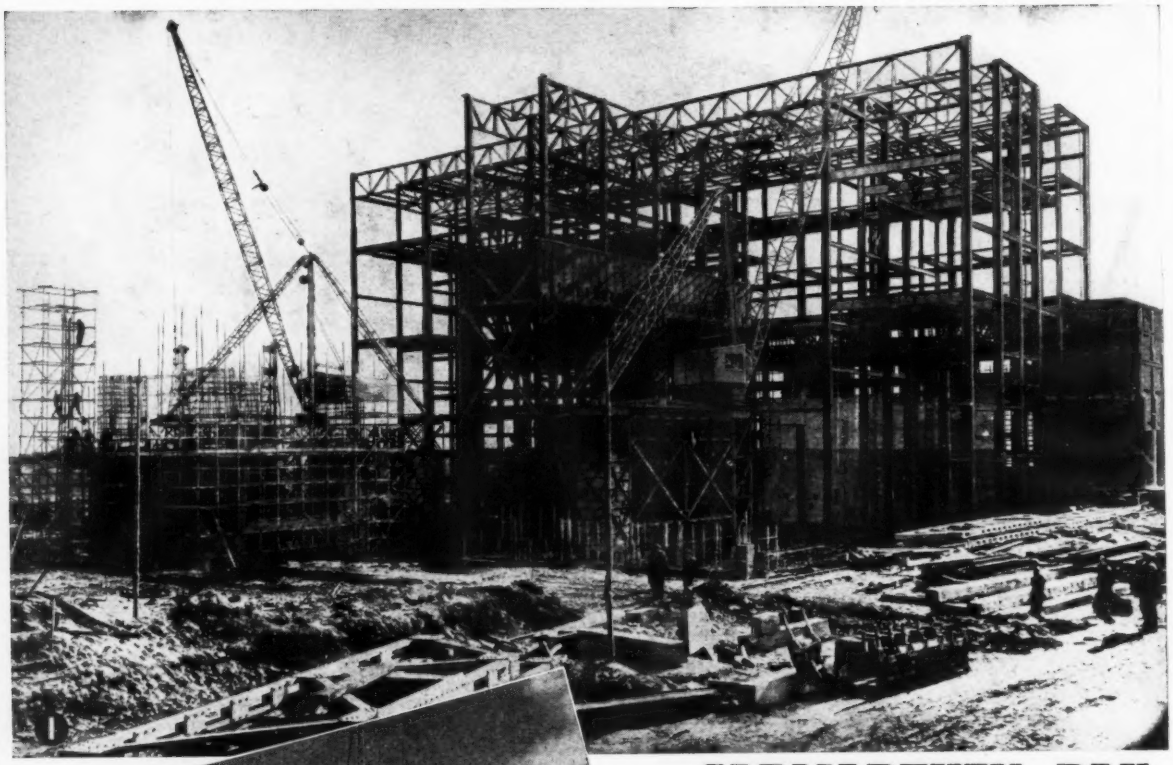


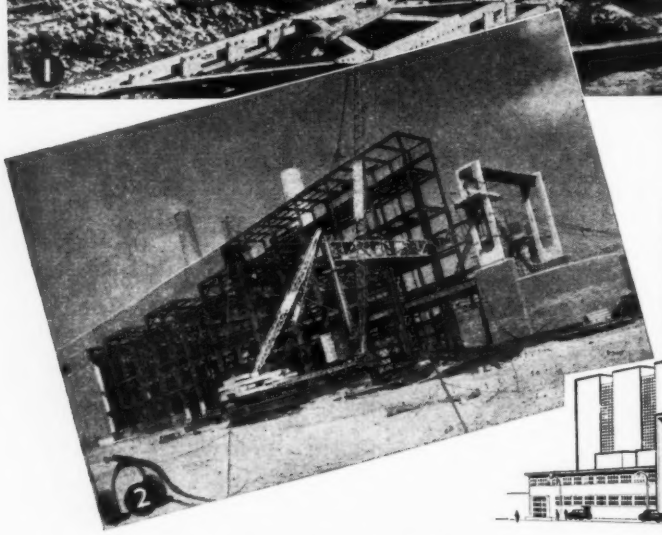
A view of the cloakroom in the new Marconi Building at Basildon, Essex.

FOR FURTHER INFORMATION
please write or phone for our descriptive 16 p.p. Booklet, which gives detailed specifications.

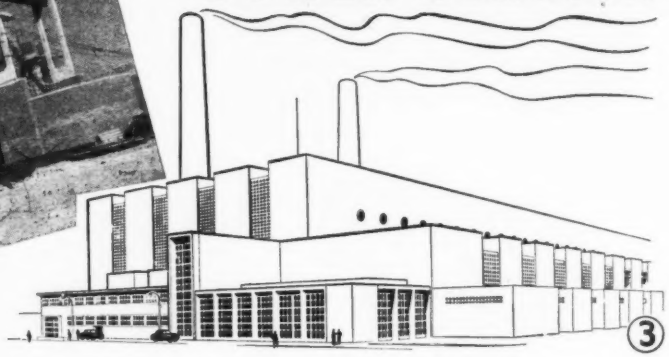
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CARMARTHEN BAY POWER STATION



1. View towards South-East across No. 1 Boiler House site showing also No. 1 Chimney Plinth in course of construction.
2. Main Building. General view of No. 3 Turbine Room and tank annexe steelwork from South side, looking North-West.
3. Main building. General view of Station building from foreshore, looking North-East.

Photographs by courtesy of the Central Electricity Authority, South Wales Division.
Engineers and Contractors: Messrs. Balfour, Beatty & Co. Ltd.

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This recessed lighting scheme of the canteen in the American Embassy was designed by Philips

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Reedlyte has the simplicity of Reeded glass but, one surface being stippled, a high degree of obscuration is imparted. Reedlyte is used for windows, partitions, and for borrowed lights where considerable, but not complete, obscuration is required and where ease in cleaning is an important factor.

technical details

Width of Reeds	Narrow ½ in. Broad ⅞ in.
Light transmission	83 per cent.
Thickness	⅛ in. (26 oz./sq. ft.) 3/16 in. (44 oz./sq. ft.) *not normally held in stock*
Maximum size	100 in. x 48 in.

Chance GLASS

* * * *

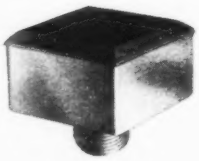
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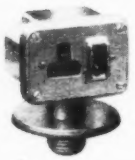
For further information on the use of glass in building consult
the Technical Sales and Service Department, St. Helens, Lancs. (Telephone: St. Helens 4001),
or Selwyn House, Cleveland Row, St. James's, London, S.W.1. (Telephone: Whitehall 5672-6)

Supplies are available through the usual trade channels

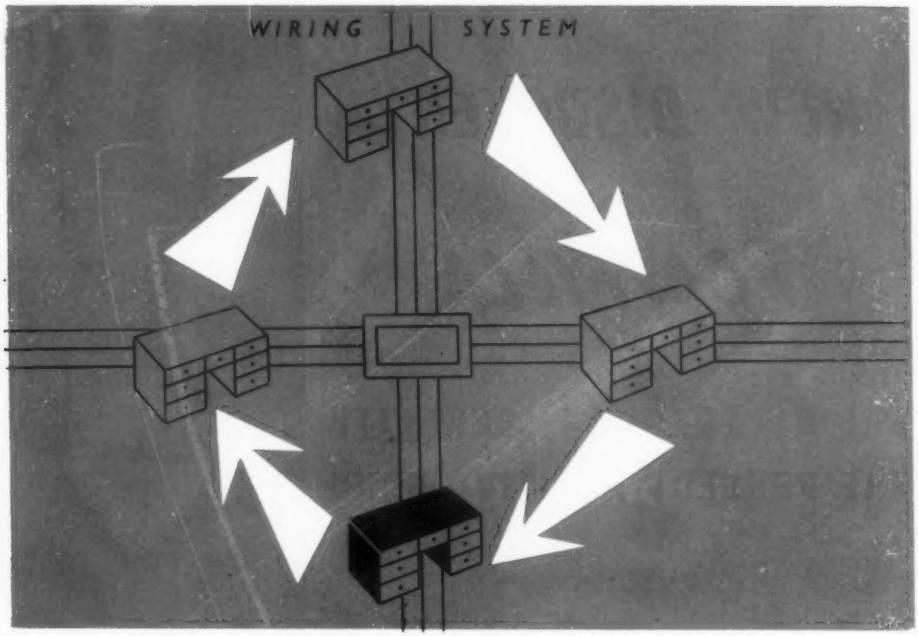
KEY

UNDERFLOOR DUCTS







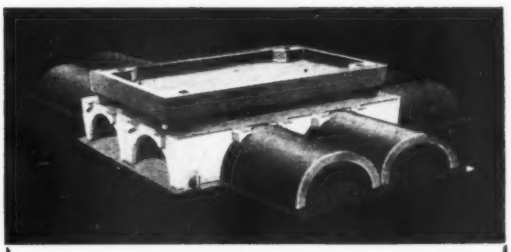


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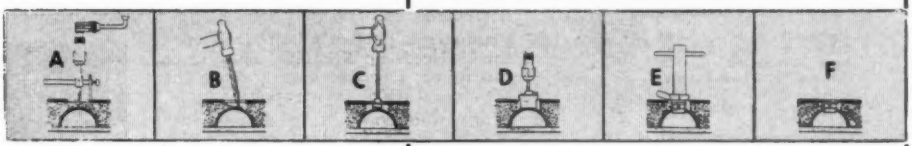
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A *Locate duct. Cut hole of required size in floor covering with Tool T.1.*
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C *Make centre for duct cutter T.8, with Tool T.6 (D).*
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E *Use wrench T.10 to screw self tapping outlet into duct. After grouting, the outlet is watertight.*
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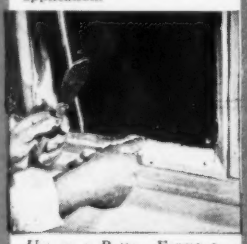
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For plaster or brick—filling cracks or holes, large or small. Brush out. Slightly damp surface. Press Polyfilla well home so as to fill crack or cavity completely in one application.



Use as a Putty. Forms a resilient bond between wood or metal and glass. Easy to work. Does not follow the knife.

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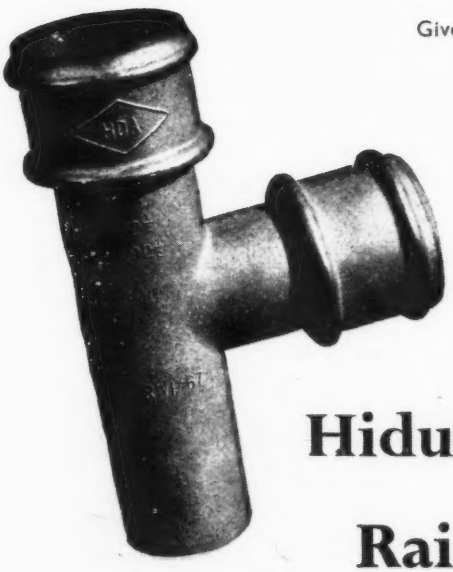
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Positive Bond means that Polyfilla bonds itself to plaster, brick or wood with strong cellulose adhesion. Look at this ordinary brick. After a hammer blow, strong enough to break brick, POLYFILLA *STILL ADHERES* to both parts! Nails hammered in have not split or broken POLYFILLA away. Clear proof of POSITIVE BOND. Screws take the weight of ordinary household fixtures without further preparation.







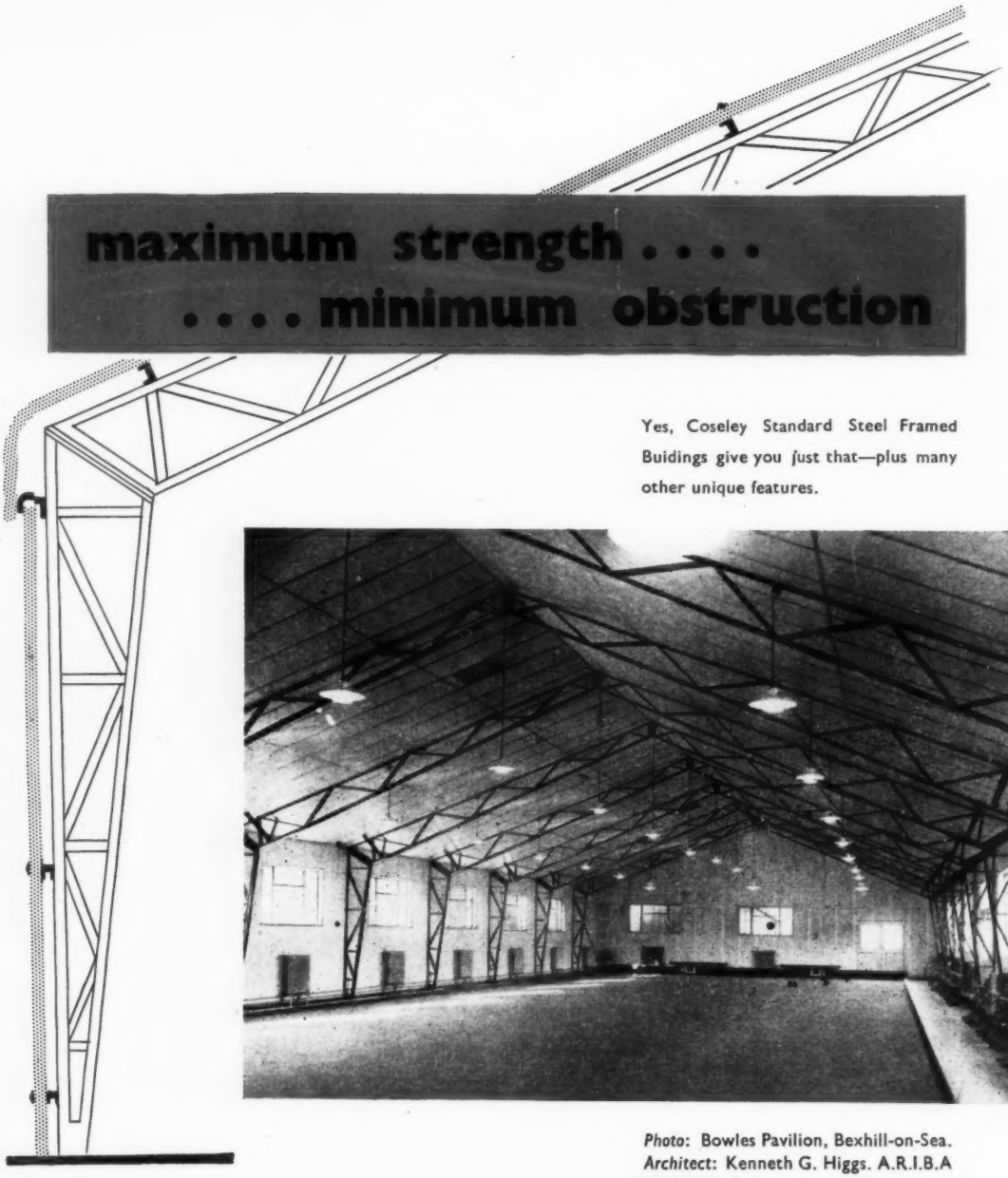


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Photo: Bowles Pavilion, Bexhill-on-Sea.
Architect: Kenneth G. Higgs. A.R.I.B.A Bexhill-on-Sea.

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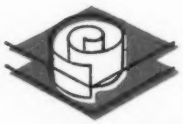
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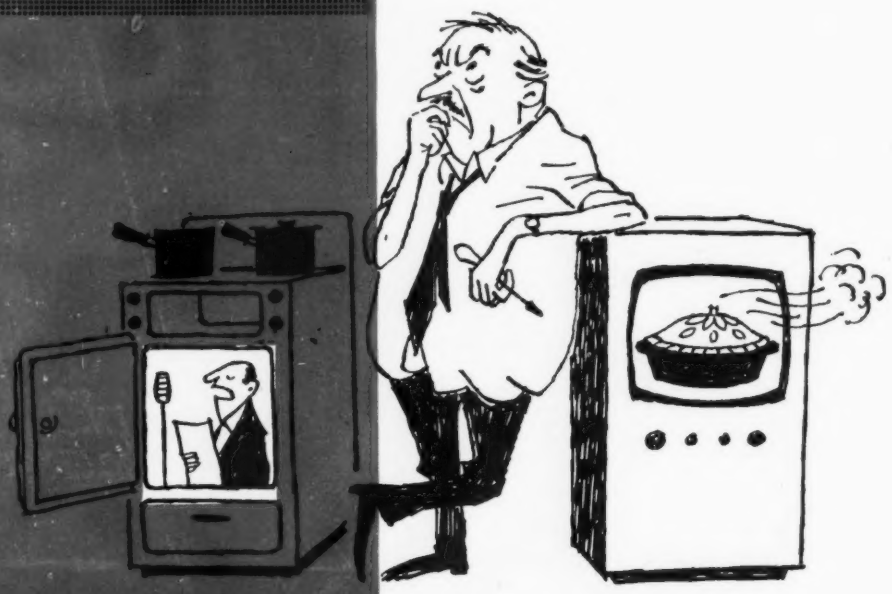
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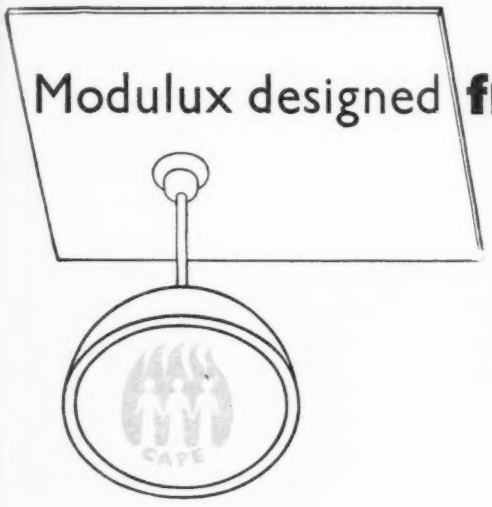
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Data Sheet A.S.2 gives fixing and other details for steel framed multi-storey buildings where distances between beams necessitate subsidiary grids for panel suspension. Data Sheet A.S.3 is related to a 40-inch planning module. Write for your copies.



"Asbestolux" ceiling at the Chaddesden Secondary Modern School, Derby. (40" module)

Architects: Architects Co-Partnership

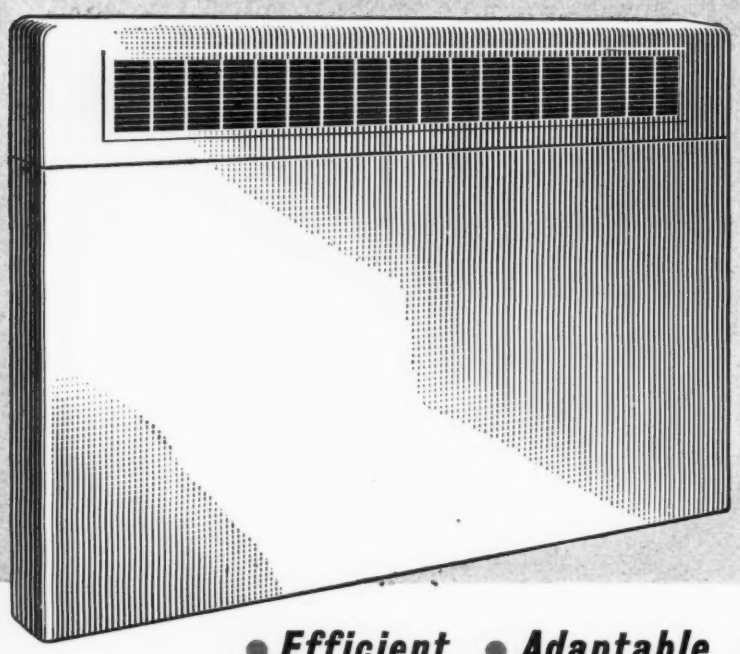
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RADIANT WARMTH with the IDEAL RAYRAD

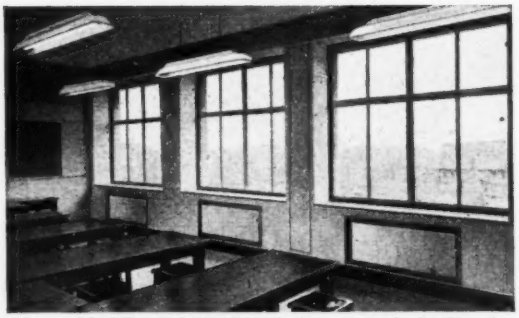
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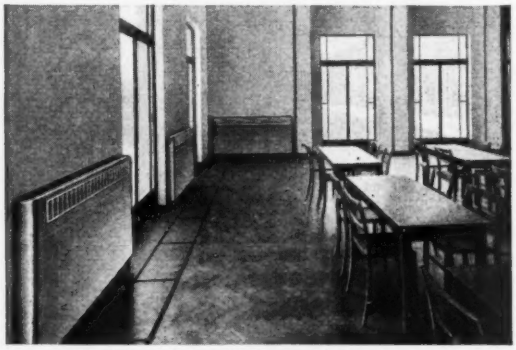
Primarily intended for fixing in window recesses, the No. 44 Rayrad has vertical cast-iron waterways elongated at the back and finished with a fin to provide considerable convective heating surface. The No. 45 is similar except that the face plate is shaped to form an enclosure with a detachable top which enables it to be fitted unobtrusively against a wall.

Made in a variety of styles to suit different requirements, Ideal Rayrads are an adaptable, efficient and hygienic means of heating for all buildings.

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No. 44 Ideal Rayrads fitted in window recesses in the Drawing Office of the Municipal College, Anglesea Road, Portsmouth.

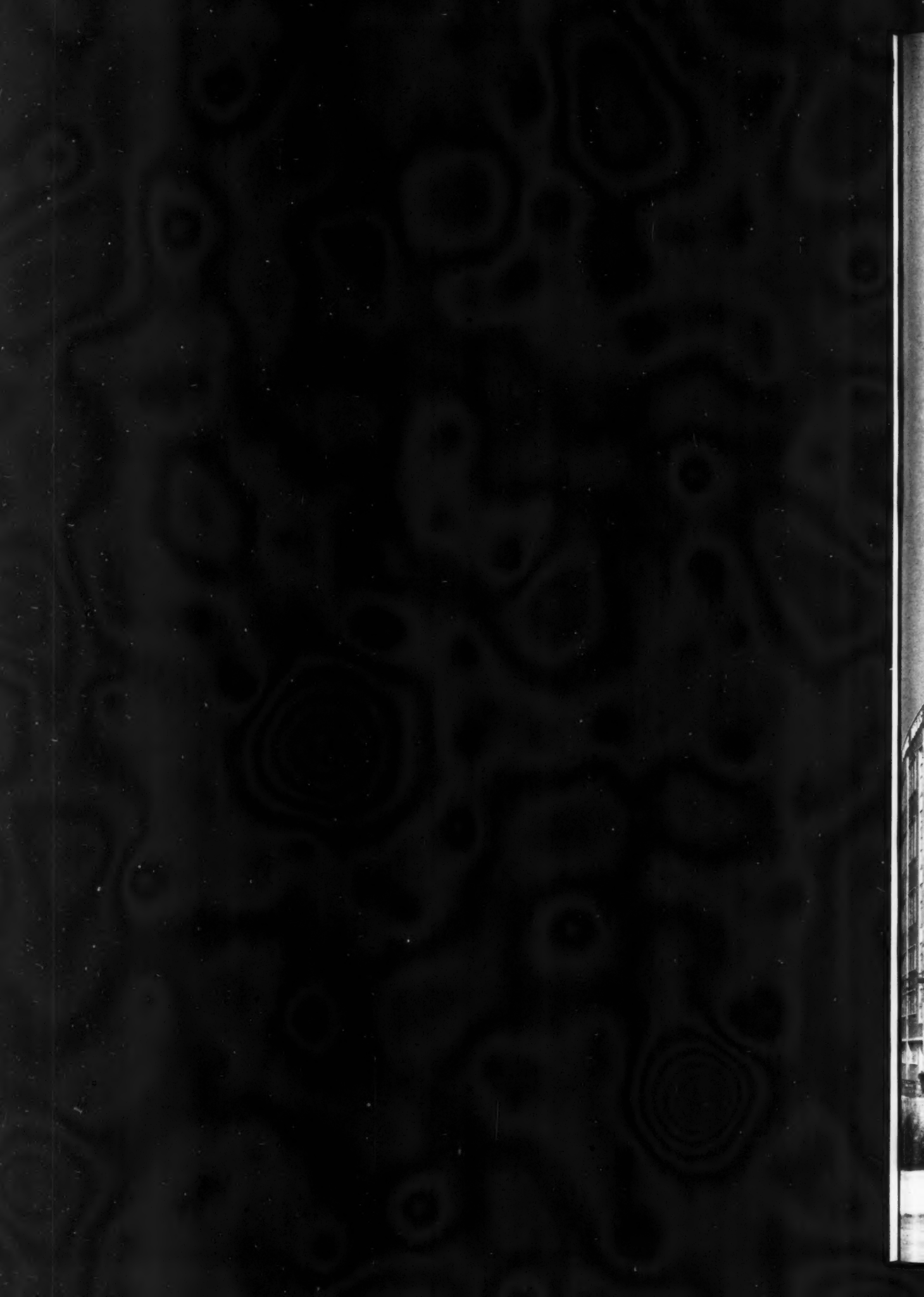


No. 45 Ideal Rayrads installed in the Dining Room of Leatherhead County Secondary School, Leatherhead, Surrey.

Ideal RAYRAD

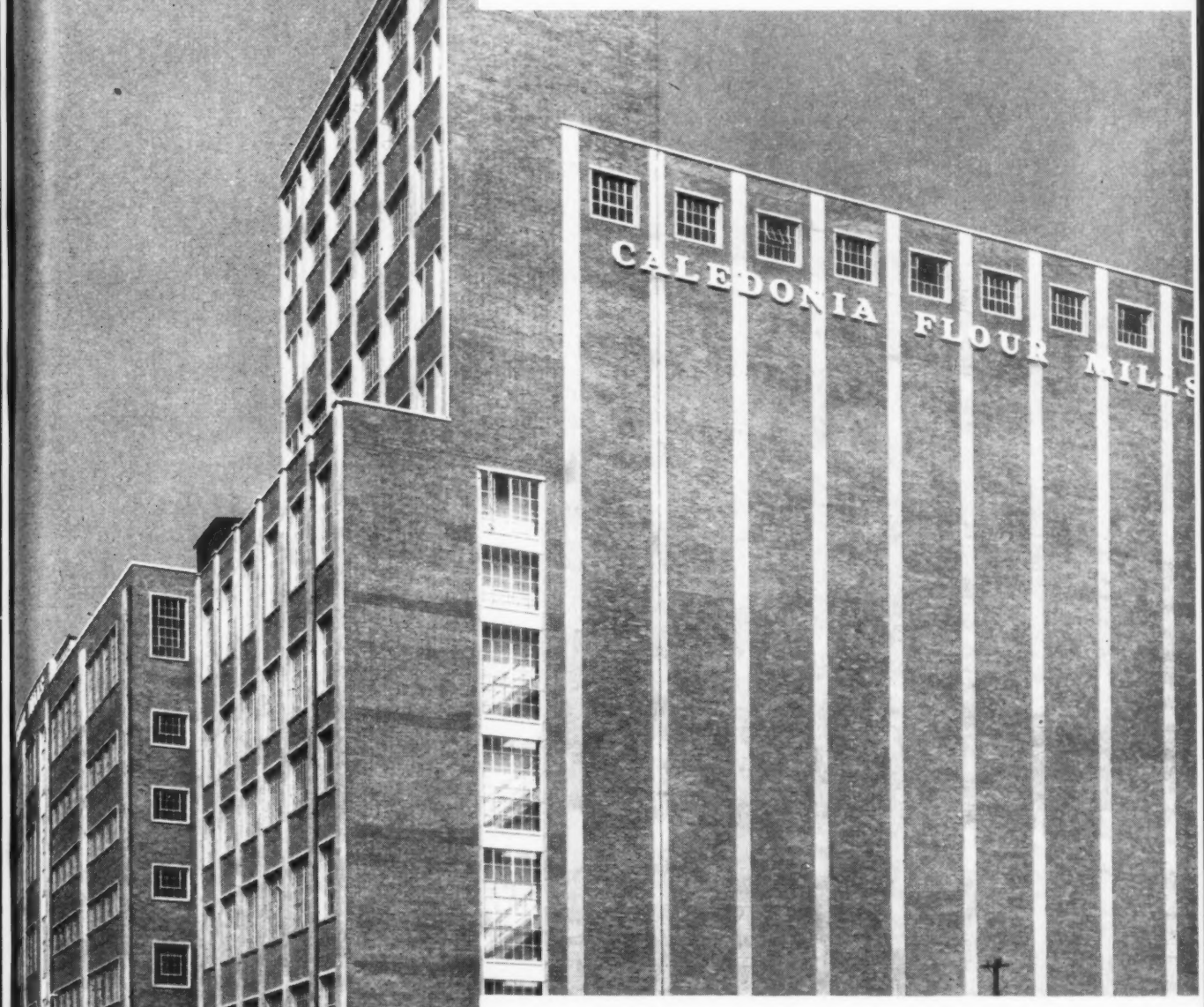
306

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This illustration shows the Caledonia Flour Mills, Leith for Messrs. Joseph Rank Ltd. (*Consulting Engineers: L. G. Mouchel & Partners Ltd*) in which are installed CRITTALL STANDARD & SPECIAL SASH WINDOWS POSITIVELY RUSTPROOFED by the hot-dip galvanising process.



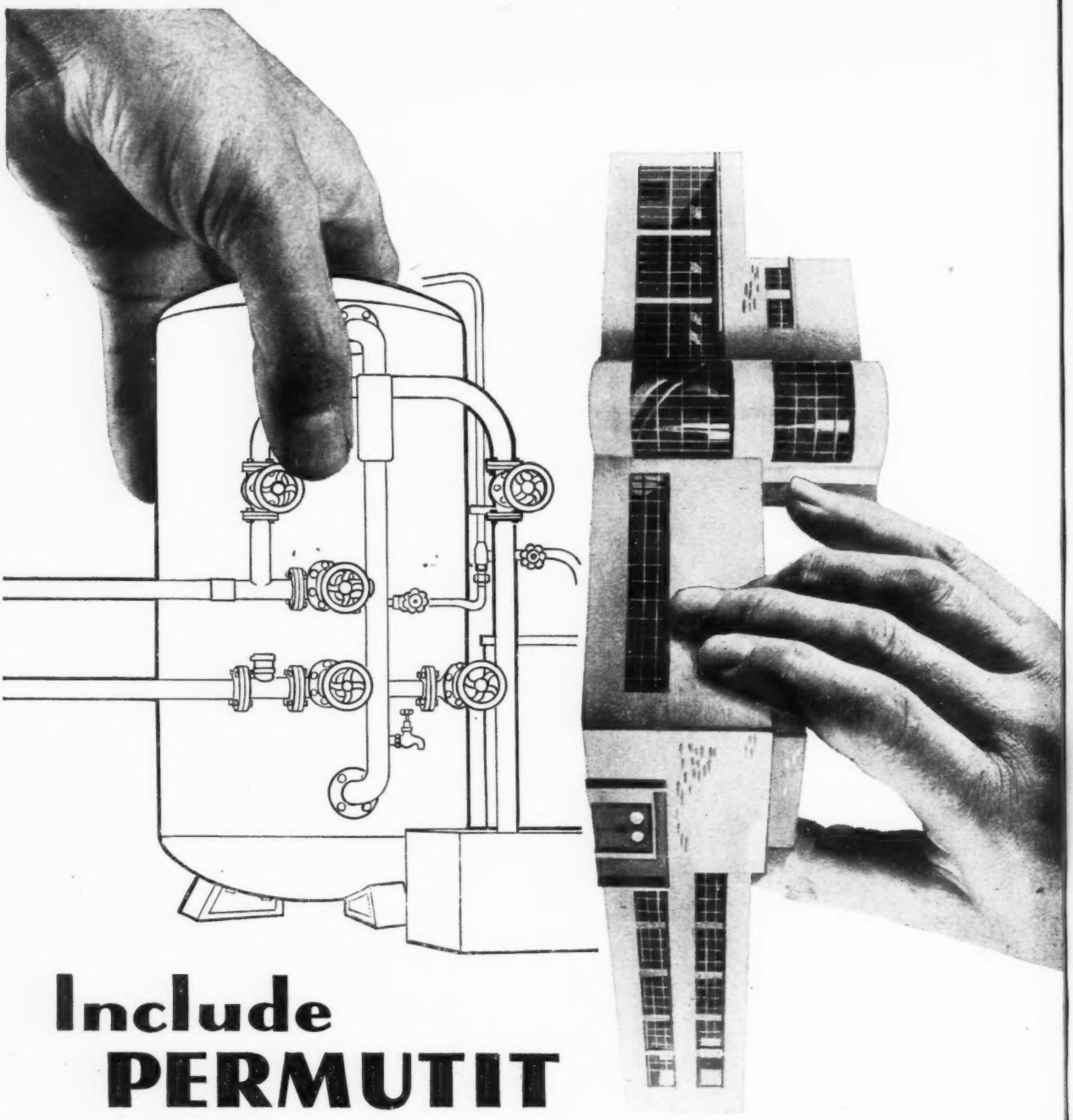
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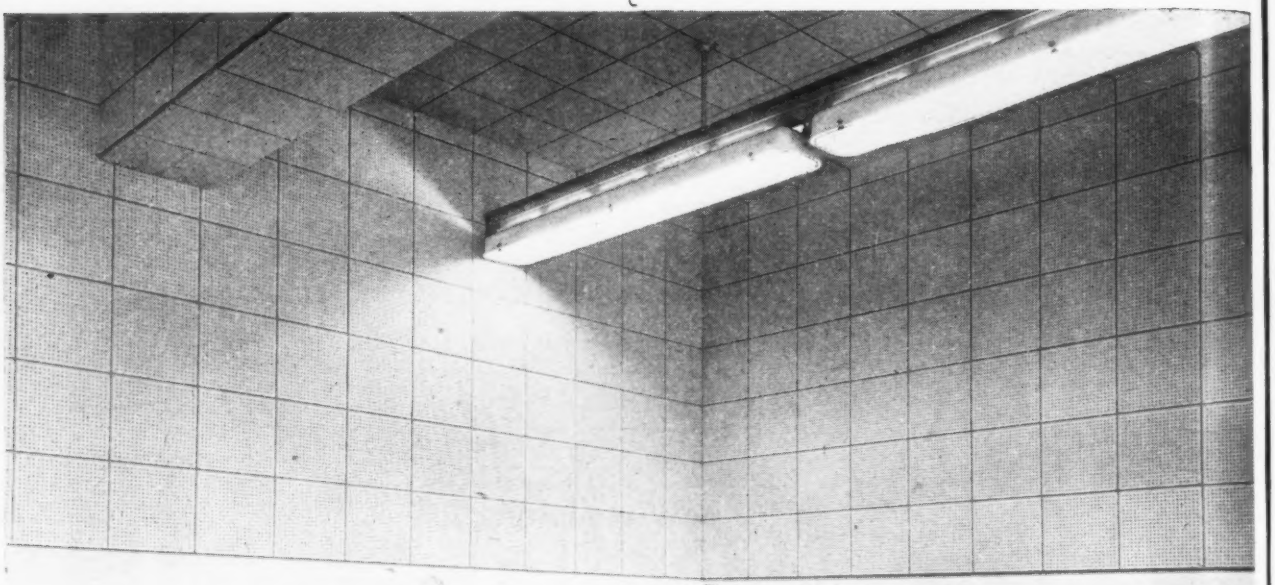
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B.128



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Memorial at the American Military Cemetry

MADINGLEY

CAMBRIDGE



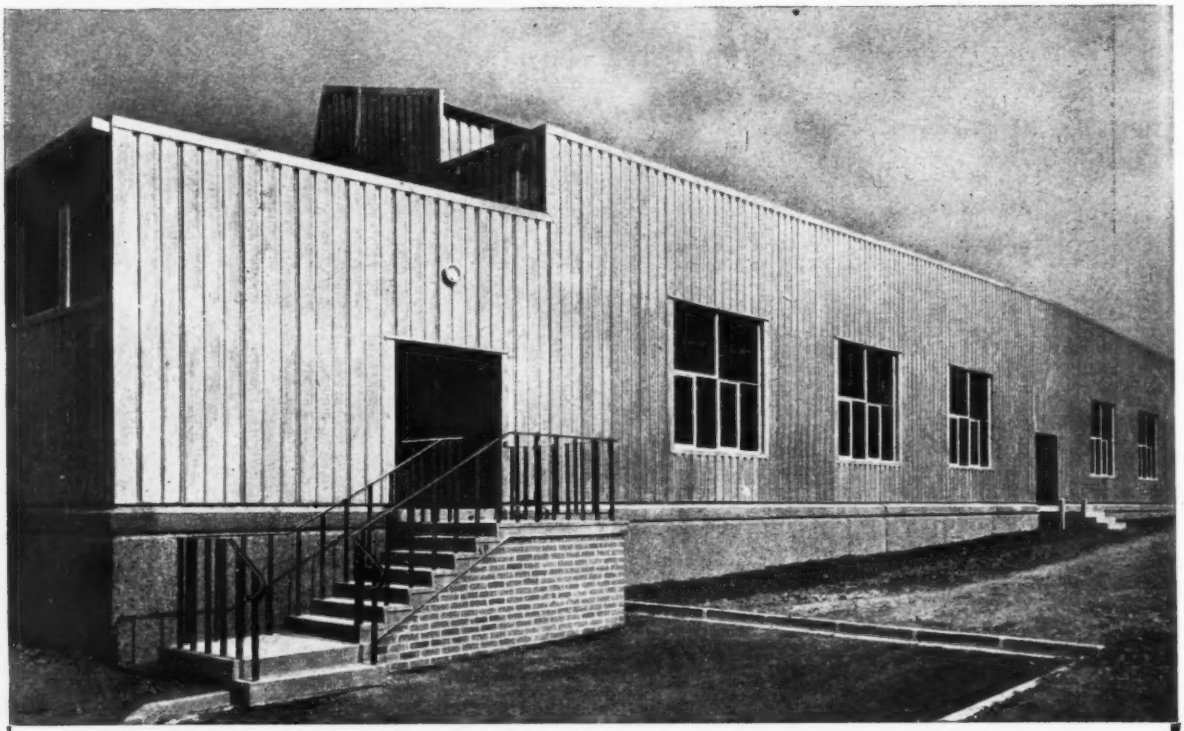
Cast bronze door enrichments and stained glass windows by Morris Singer for the American Battle Monuments Commission. Architects: Messrs. Perry, Shaw and Hepburn, *Boston, Mass, U.S.A.* Consulting Architects: Messrs. Hughes and Bicknell, *Cambridge, England.*

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Robertson Q-PANEL was used for the sidewall construction of the factory illustrated, which was recently completed for the North Eastern Trading Estates for use by Messrs. Alexandre Limited, Peterlee. This modern building is also roofed with Robertson Q-Deck. The Architects were J. H. Napper & Partners, Newcastle upon Tyne.

Advantages of Q-Panel include:-

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3. **High thermal resistance**
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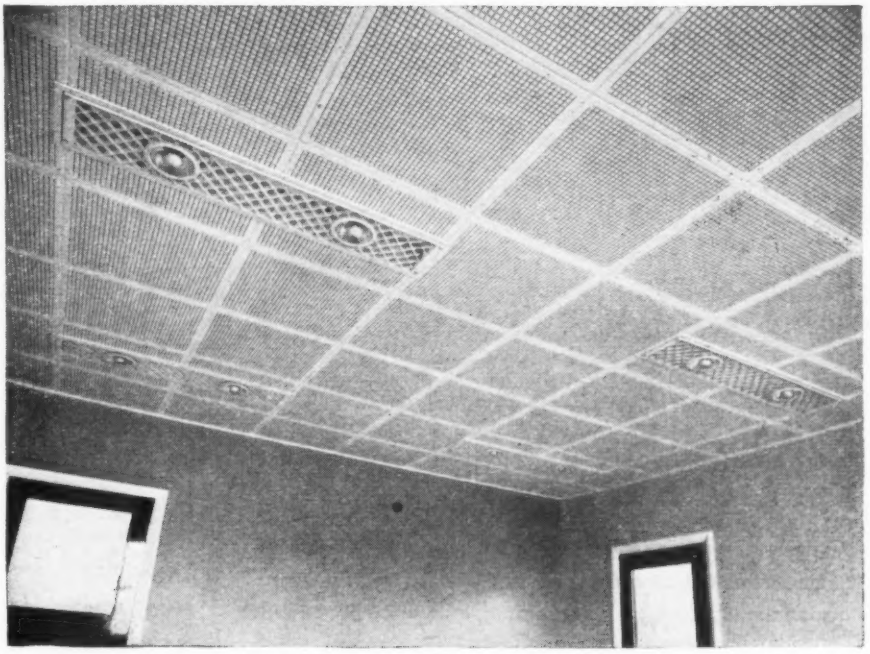
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QP 2

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Beauty and utility are perfectly combined in this Acoustic Panelled Ceiling installed recently at the premises of Messrs. Mullard Ltd., Waddon, Croydon.
Architect: Graham Crump, F.R.I.B.A.

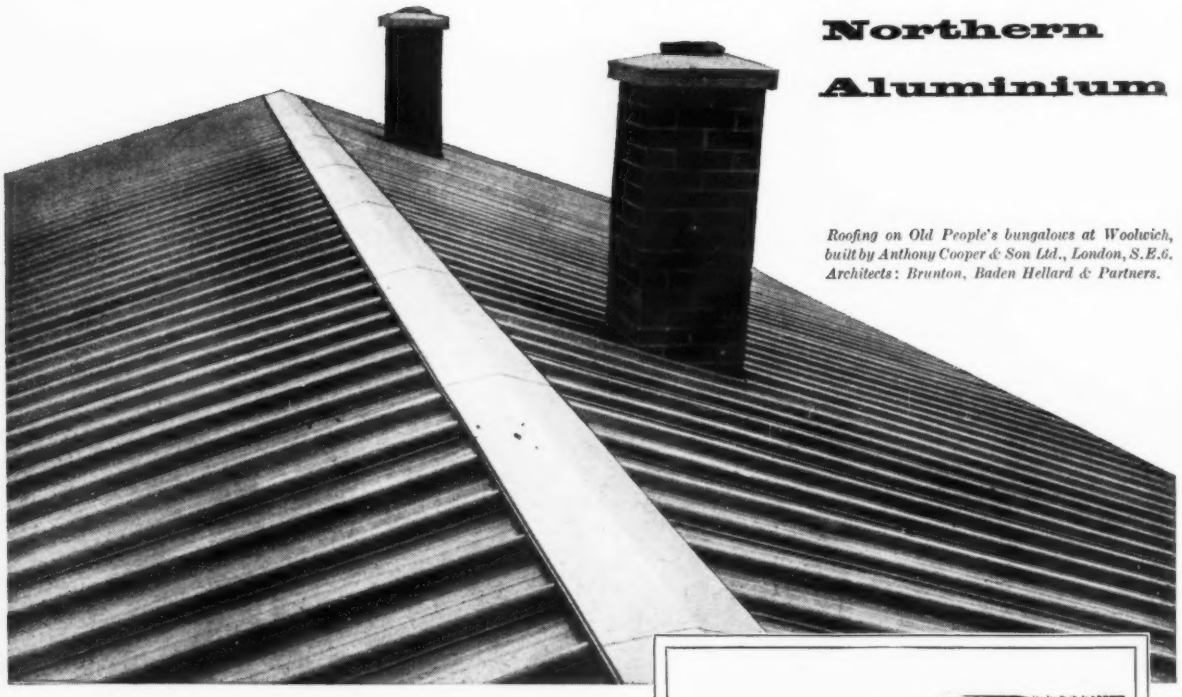
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Noral Snaprib Sheet *is here used to roof three Old People's Bungalows at Woolwich. The building is sponsored by the British Plaster Board (Mfg.) Ltd., to show how non-traditional materials may be used for comfortable dwellings, quickly erected at low cost—with the help of*

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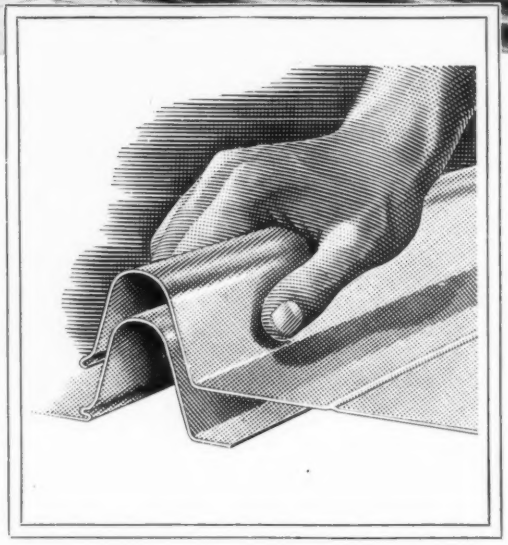


Roofing on Old People's bungalows at Woolwich, built by Anthony Cooper & Son Ltd., London, S.E.6. Architects: Brunton, Baden Hellard & Partners.

Snaprib in Service

Using Noral Snaprib for this roof has brought considerable advantages in erection and service. With no external fastenings and no end laps, a leak-proof, low-pitched roof was possible, saving structural and insulating materials, while the simplicity of the fastening technique saved valuable erection time. Being of aluminium it is light—purlins give all the support required—and will have a long life. Adding to its good appearance is the light grey 'Pyluminized' finish, one of several in which Snaprib is supplied.

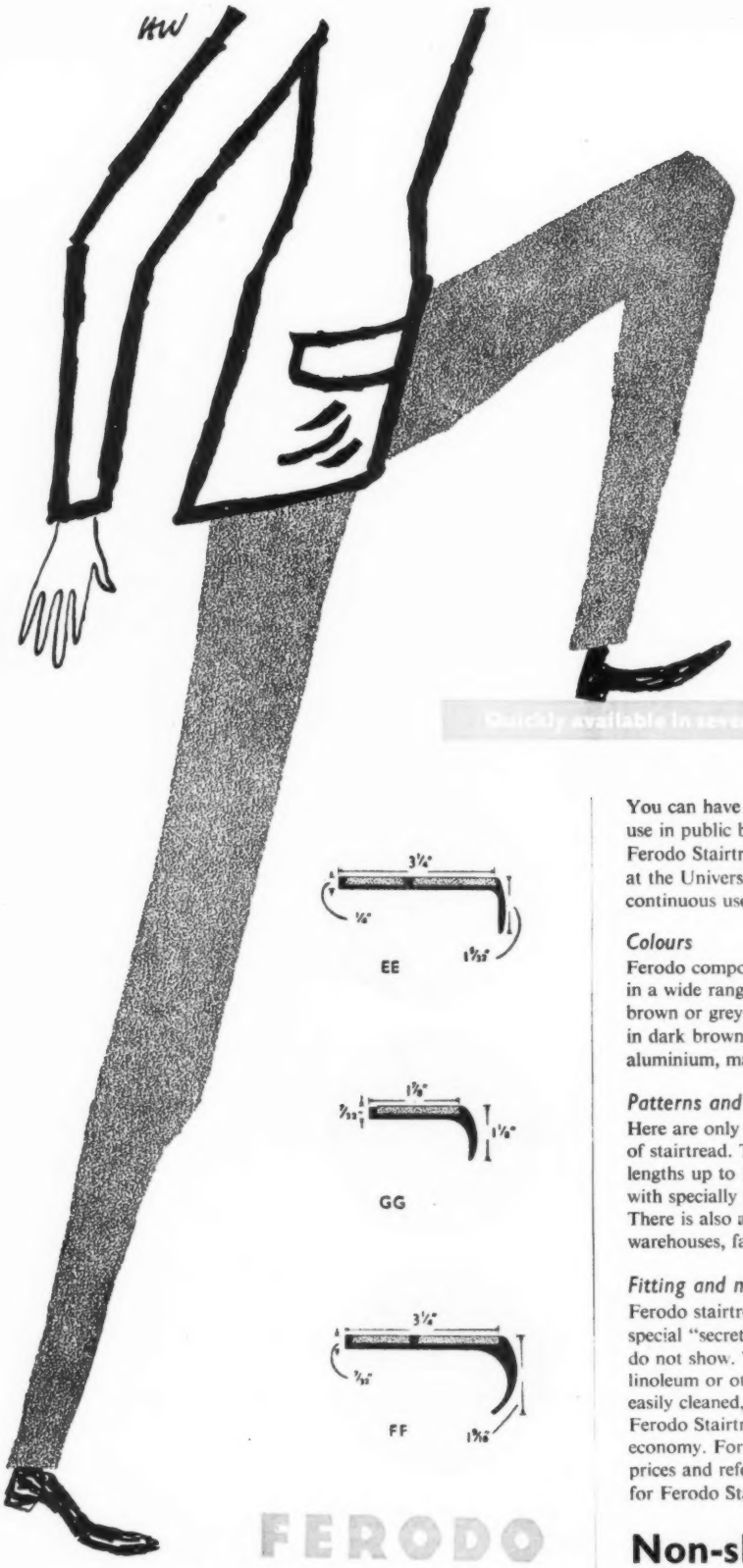
The 'Snaprib' system is fully covered by patents held by Cookson Sheet Metal Developments Ltd.



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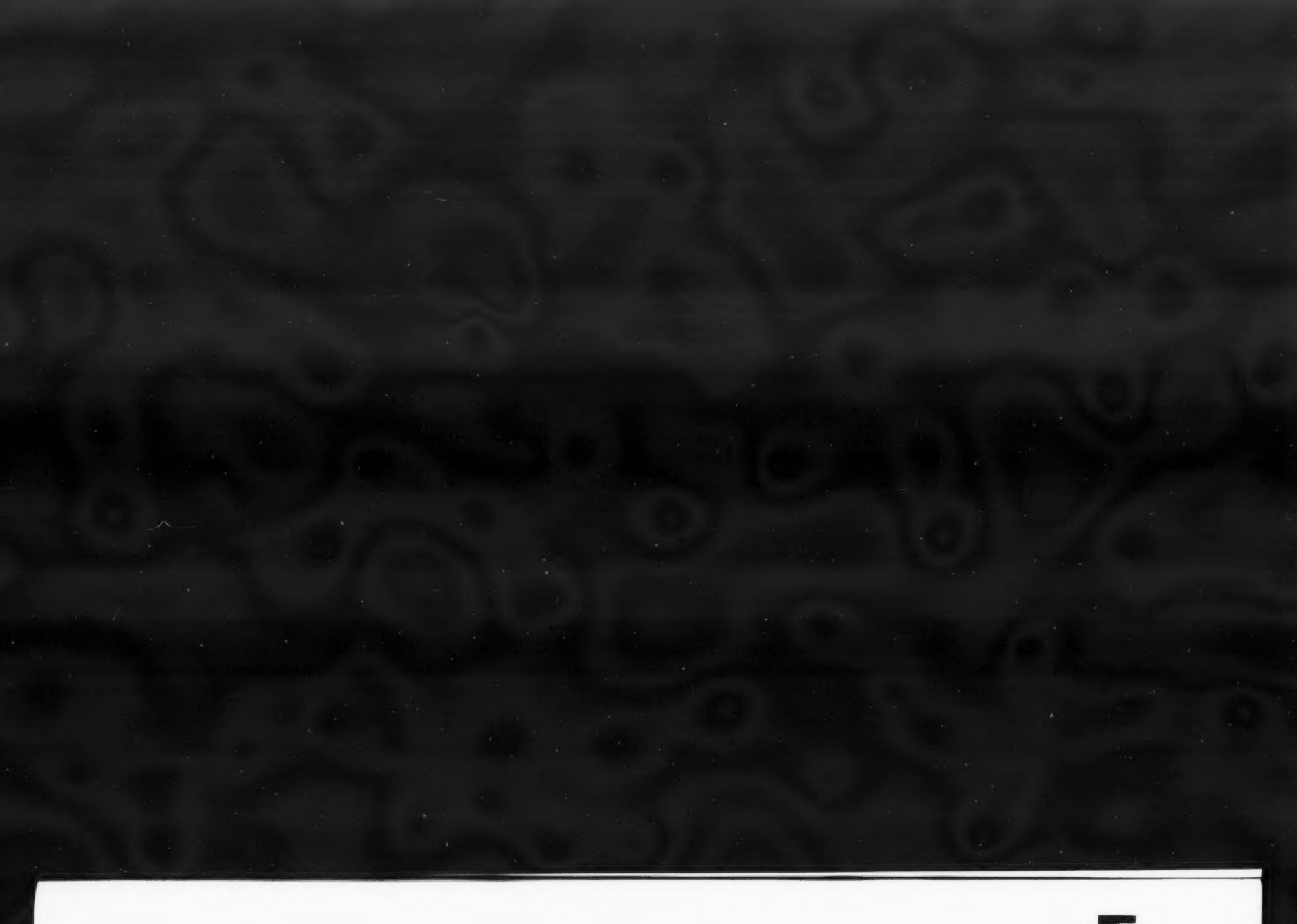
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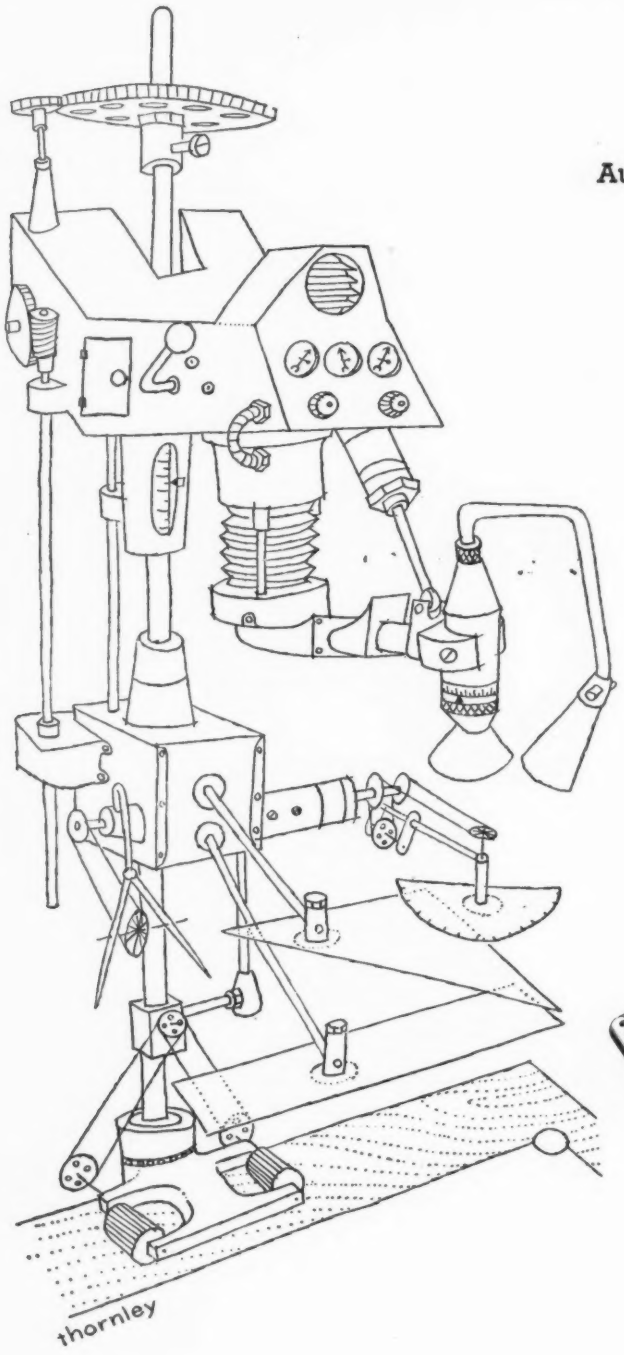
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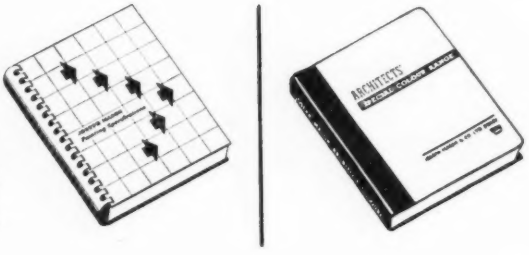
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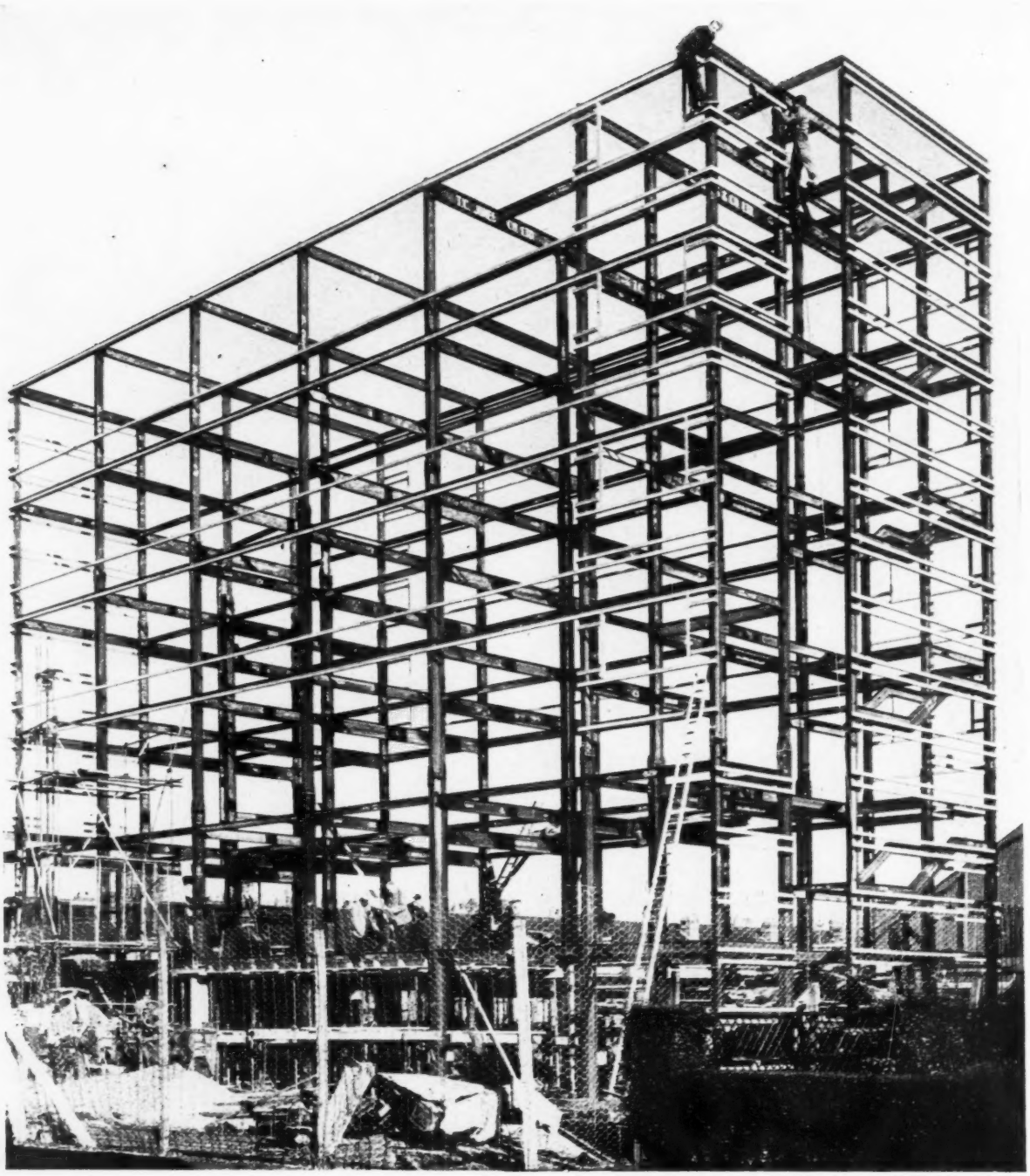
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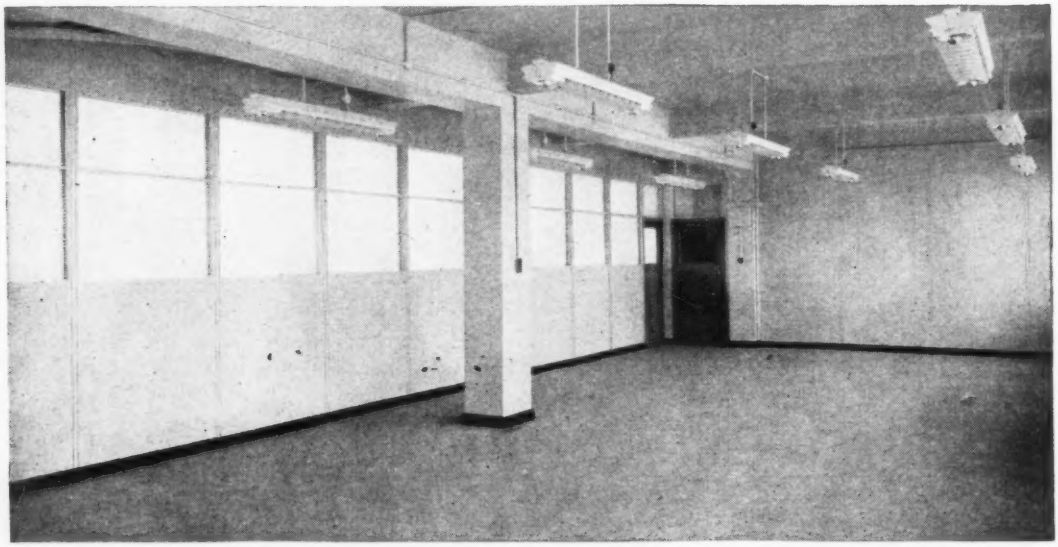
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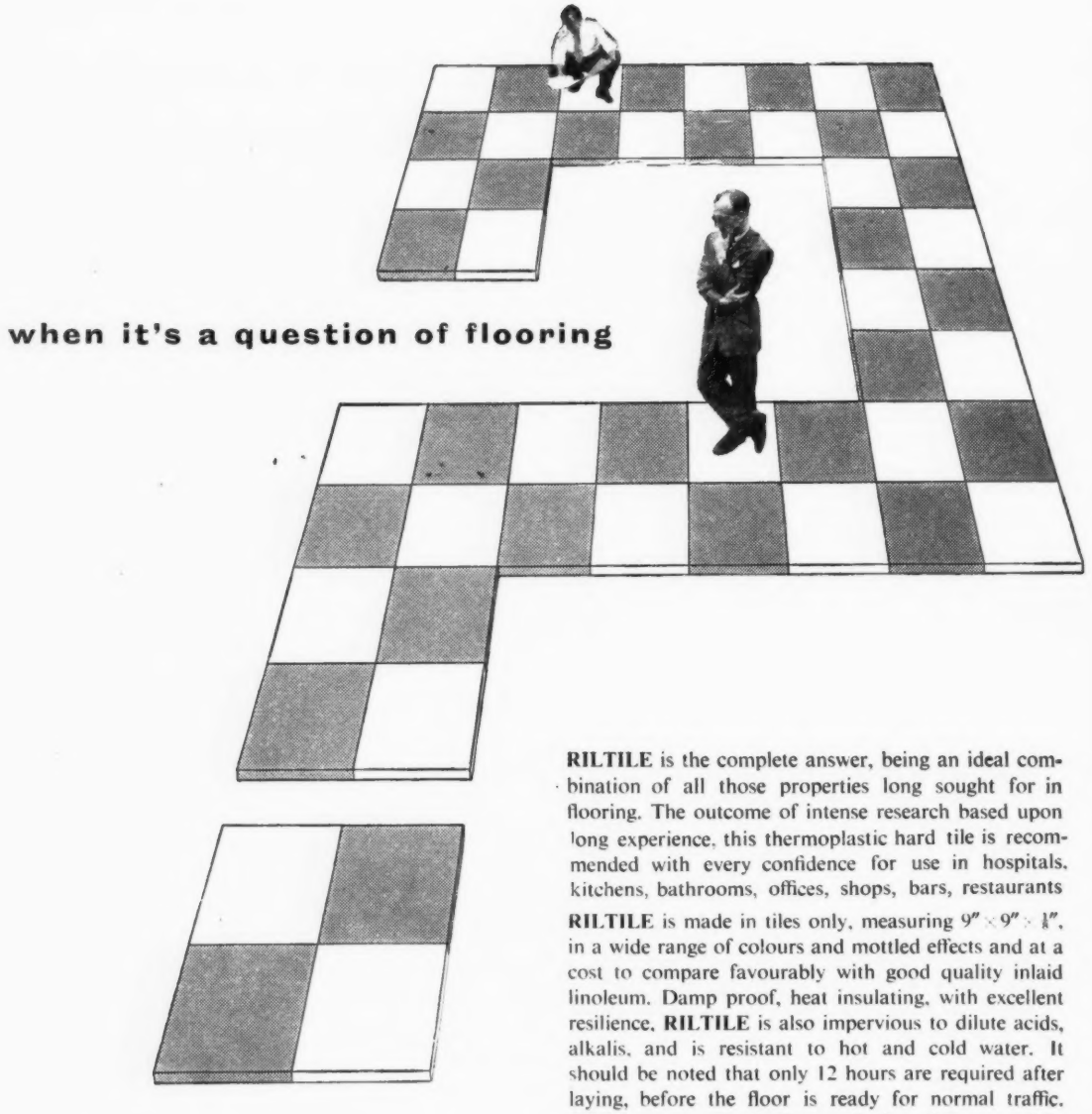
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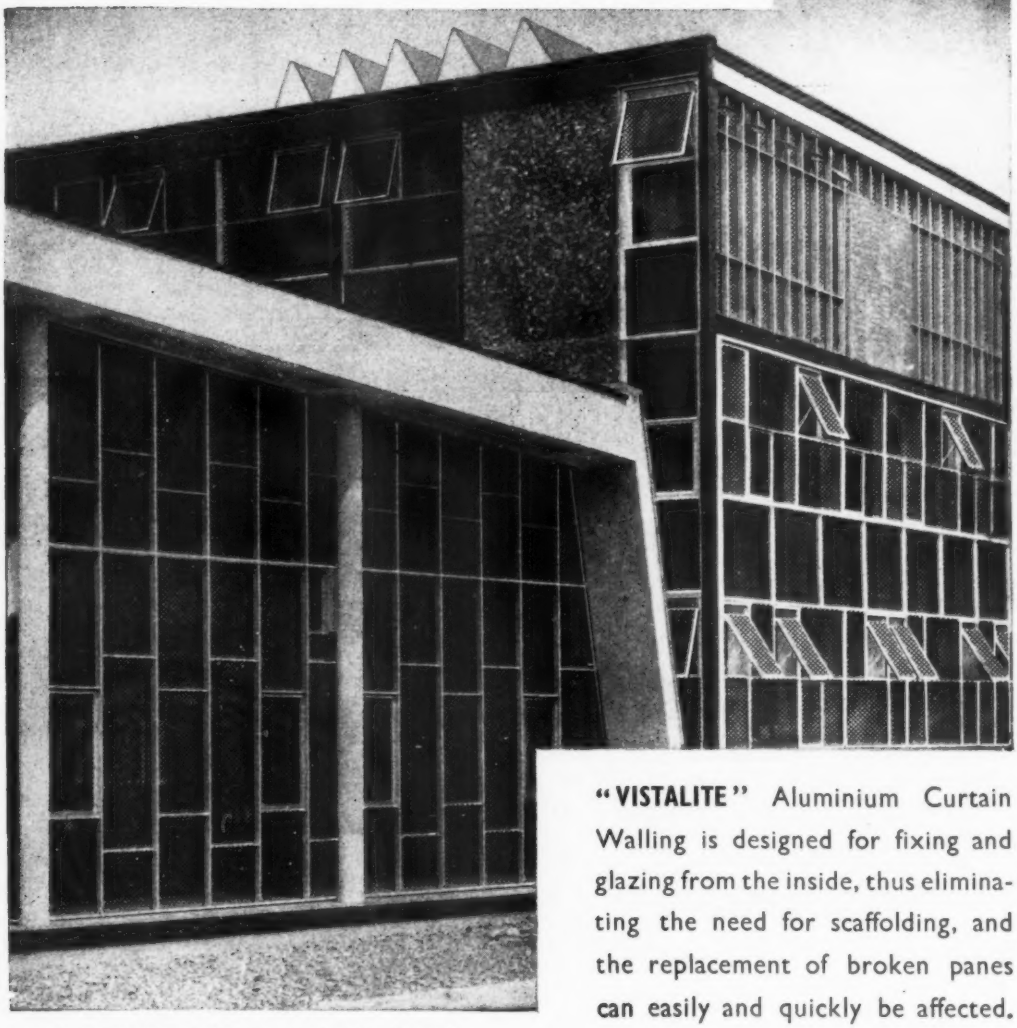
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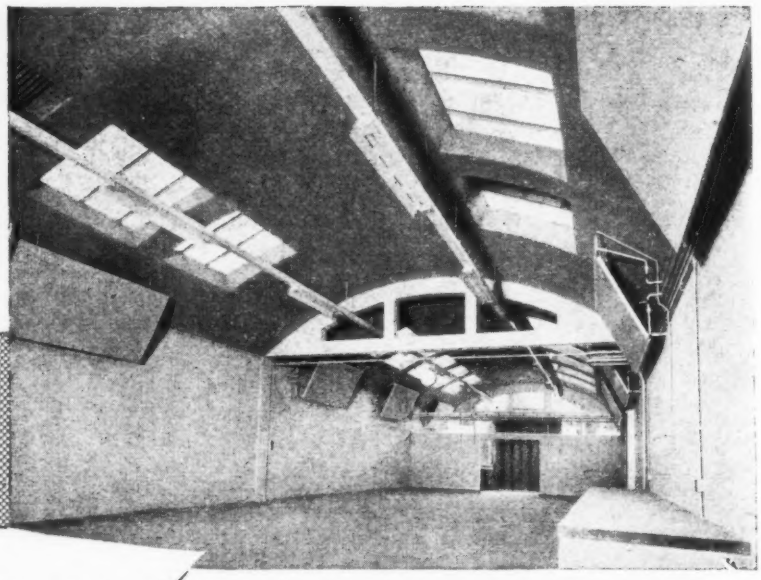
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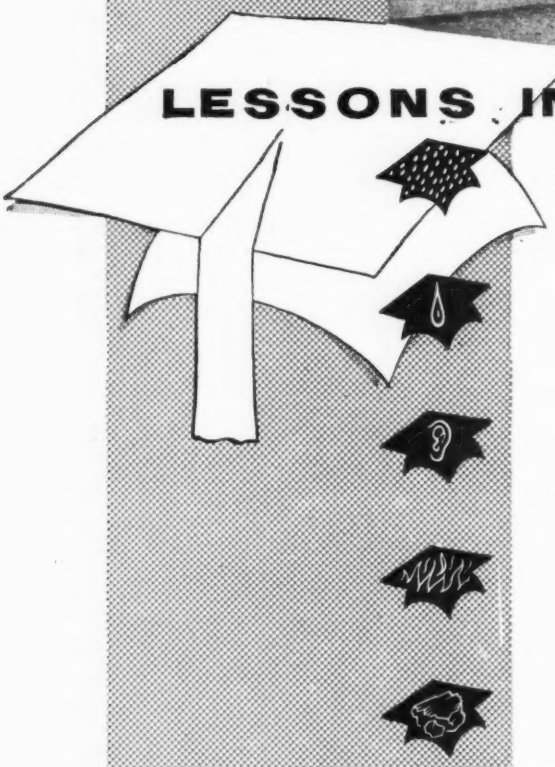
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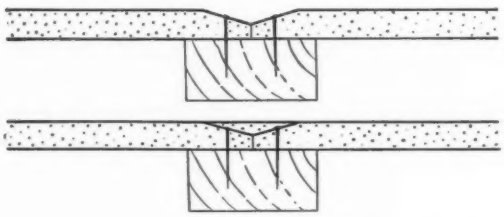
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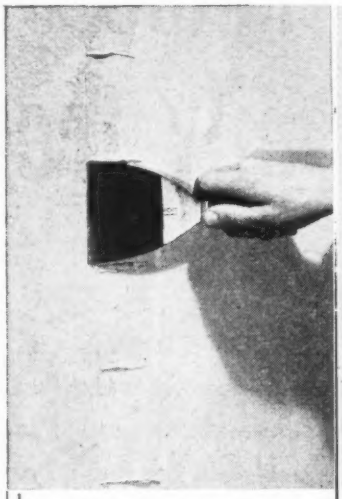
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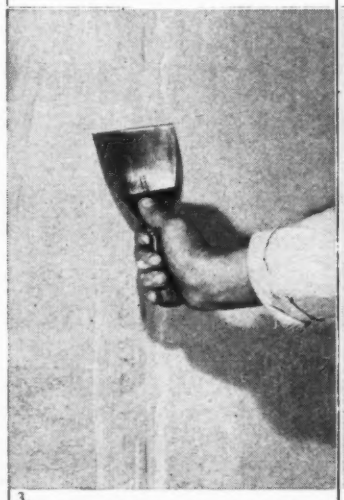
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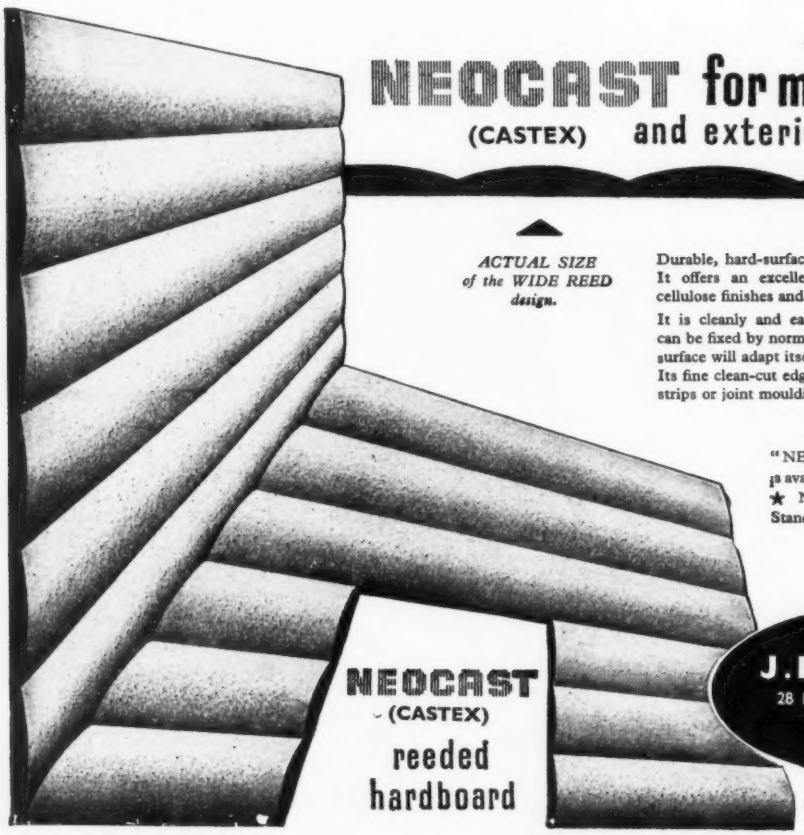
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It is cleanly and easily worked with ordinary carpenter's tools; can be fixed by normal woodworking methods, and its fine, smooth surface will adapt itself to curvatures as easily as it will to flat areas. Its fine clean-cut edges, too, meet perfectly without need for cover strips or joint mouldings.

"NEOCAST" of ⅛in. (3·5 mm.) standard thickness is available in :—

★ NARROW REED ★ WIDE REED

Standard sizes: 7ft. 5in. by 4ft. 3in.

NEOCAST (CASTEX) reeded hardboard

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28 BISHOPSGATE, LONDON, E.C.2.

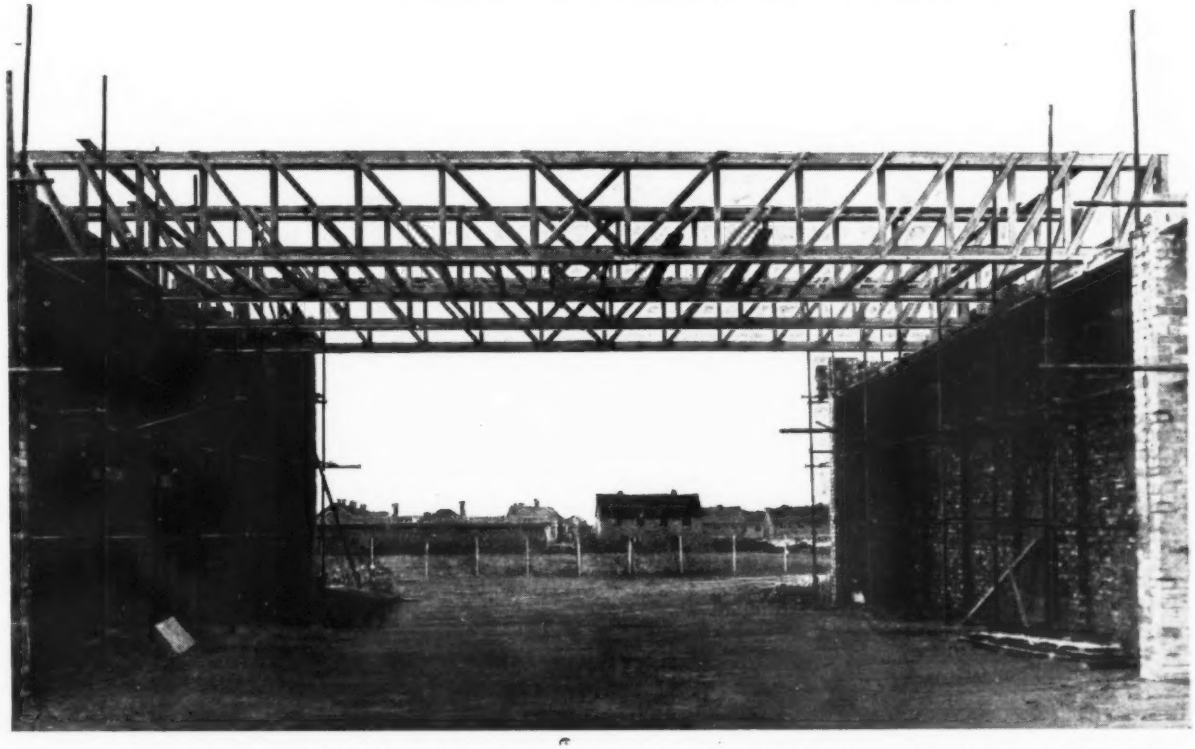
LONDON WALL 6656

"NEOCAST" may be rendered flameproof up to standard required by local councils.

Lighter sections yet stronger structures using 'Aerolite' 300

Tests to destruction have proved that a simple lap joint made with 'Aerolite' synthetic resin glue has a strength greatly exceeding that of a joint made by mechanical connection. This greater efficiency offers many other advantages. Smaller sections of wood can be used, with a corresponding reduction in cost, greater convenience in the production of pre-fabricated units and considerably easier handling on the site. 'Aerolite' is used extensively in the construction of box beams, lattice girders, roof trusses and in all woodworking where great strength, durability and economy are required.

'Aerolite' 300 synthetic resin glue is available with an extensive range of hardeners. It is unaffected by heat, moisture and bacteriological attack and hardens rapidly at normal shop temperatures. 'Aerolite' 360 (the powder form of the resin offering two years' storage life) can be obtained through all builder's merchants and ironmongers. Detailed technical information will be sent upon request.



'Aerolite'—glued roof truss for the assembly hall of a school at Marsk-on-Sea. Architect : J. H. Napper, M.A., F.R.I.B.A. Structural Engineer : D. W. Cooper, B.Sc.

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'Aerolite' is a Registered Trade Name

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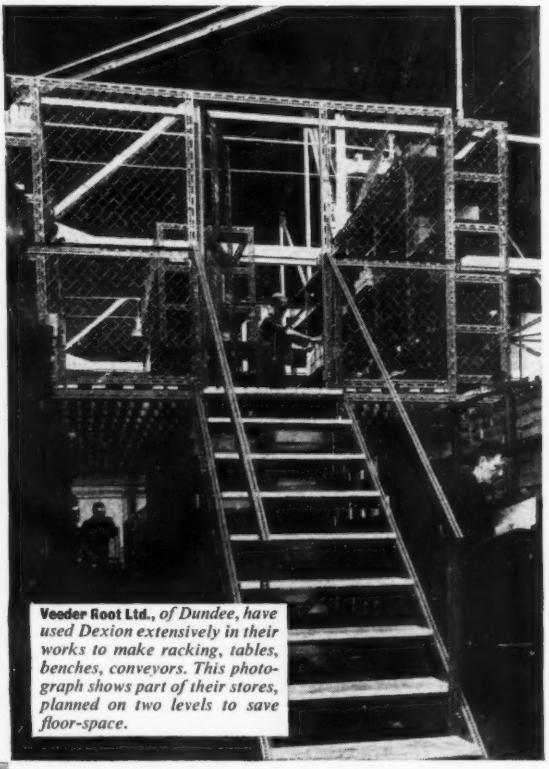
IT PAYS TO THINK OF DEXION
—at the planning stage

A FACTORY LAYOUT must be flexible, capable of being adapted at short notice to changing circumstances. This applies particularly to storage requirements and works equipment.

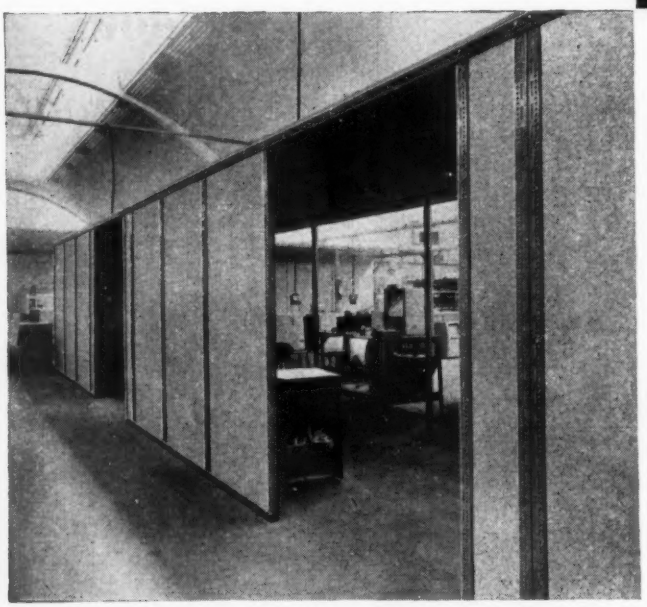
There is no more versatile material for building stores and equipment, exactly to your own designs, than Dexion Slotted Angle. Such Dexion equipment is quick and cheap to install. And any Dexion structure can be readily adapted and altered to meet changing needs. There is no waste, no scrap: Dexion is fully recoverable, and can be used again and again.

When you are planning the building and layout of a factory, Dexion deserves careful consideration at an early stage. This versatile material may bring about important economies, initially and for years to come.

A technical design and estimating service is available free; and for large installations, construction teams will carry out the work if required.



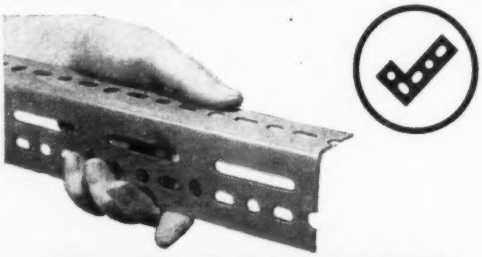
Veeder Root Ltd., *of Dundee, have used Dexion extensively in their works to make racking, tables, benches, conveyors. This photograph shows part of their stores, planned on two levels to save floor-space.*



Murphy Radio Ltd. *rapidly erected this partitioning on a Dexion framework, to give a shaded area for testing television sets. Dexion can be used with plywood, asbestos sheeting, corrugated metal, hardboard or any similar cladding material.*

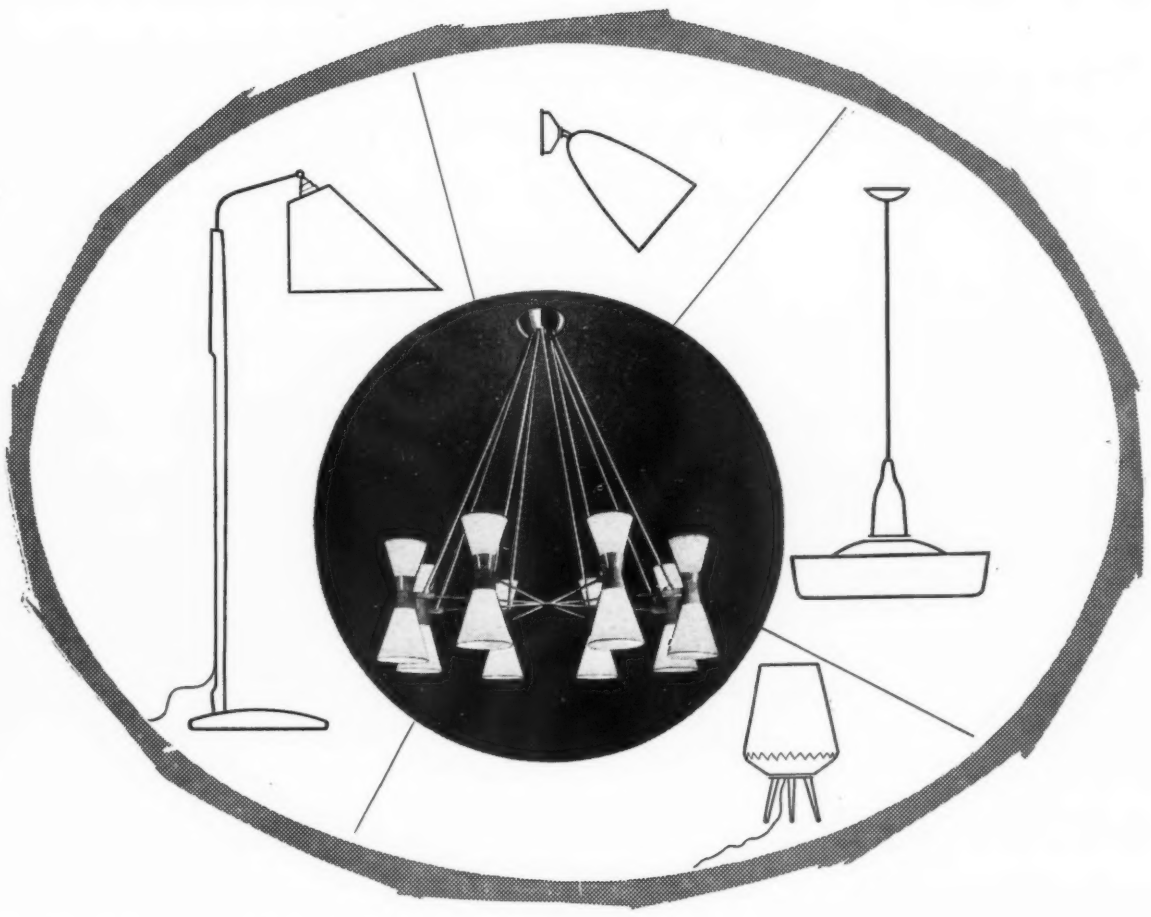
GET THE FACTS

Dexion 225 is sold in packets of ten 10-ft. lengths, complete with bolts. Steel Dexion (price from 1/3½ to 1/5 per foot) is rust-protected, stove-enamelled. Where a light but strong, non-magnetic, non-corroding material is required, use Alloy Dexion (full technical details and prices on request). Send today for sample piece of Dexion and illustrated booklet AU.143 showing many uses in industry. Dexion Ltd., 65 Maygrove Road, London, N.W.6. (Telephone MAIda Vale 6031-9.)



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universal lighting



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»MONDOLITE«

Mondolite is part of a comprehensive range which includes Versalite, for directional lighting, Ultralux for general lighting, and Tubalux for fluorescent lighting — all to be seen at THE LIGHTING CENTRE.

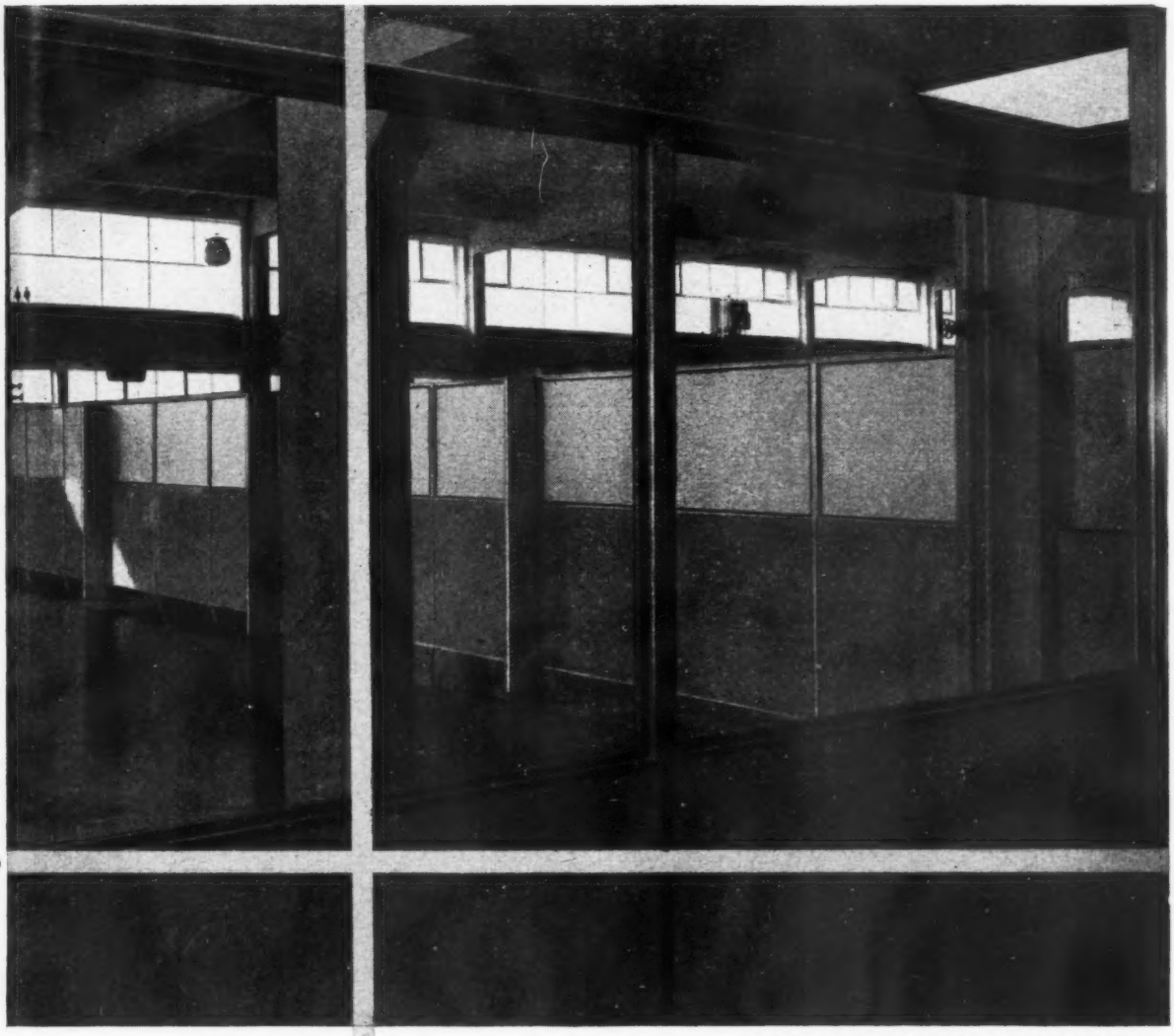
TROUGHTON & YOUNG

TROUGHTON & YOUNG (Lighting) LTD., *The Lighting Centre*,
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British European Airways, Staff Catering Block, London Airport.

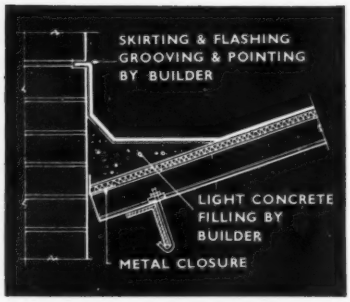
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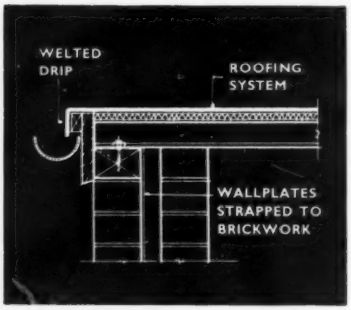
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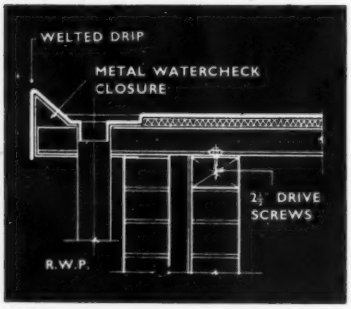
SARO LAMINATED WOOD PRODUCTS LTD.
EAST COWES, ISLE OF WIGHT. Telephone: COWES 704-9
LONDON OFFICE: 45 PARLIAMENT STREET, S.W.1. Telephone: TRA 6291

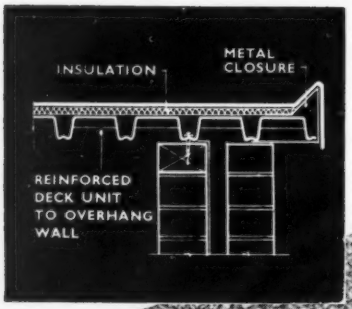
TYPICAL DETAILS OF FINISH



eaves and verge details







ANDERSON *aluminium*

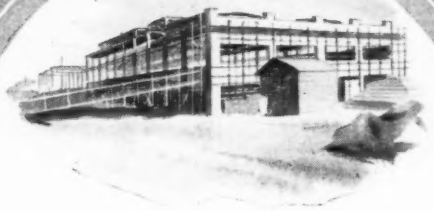
'E' *decking*

'E' Decking is a complete roof incorporating aluminium deck units, insulation and weatherproofing by an Anderson system of built-up roofing. The roof is lightweight combined with maximum strength for all purposes, has good insulation value, high reflectivity and is adaptable to most roofs. Full technical details of the system are available on request.

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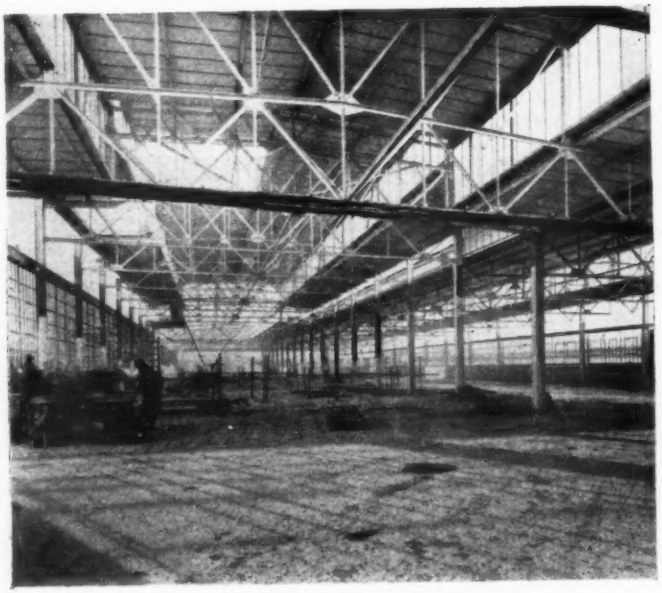
Another Rubery Owen job is shown here—the factory extension erected for the Wolverhampton plant of the Goodyear Tyre and Rubber Company. Double storey type building, 380 feet long, 100 feet wide with an annexe 100 feet long, 25 feet wide.

Height to eaves 35 feet.

Roof covered with V beam sheeting.

Lights of patent glazing with 30 feet opening geared windows.

Steelwork totals approximately 680 tons.



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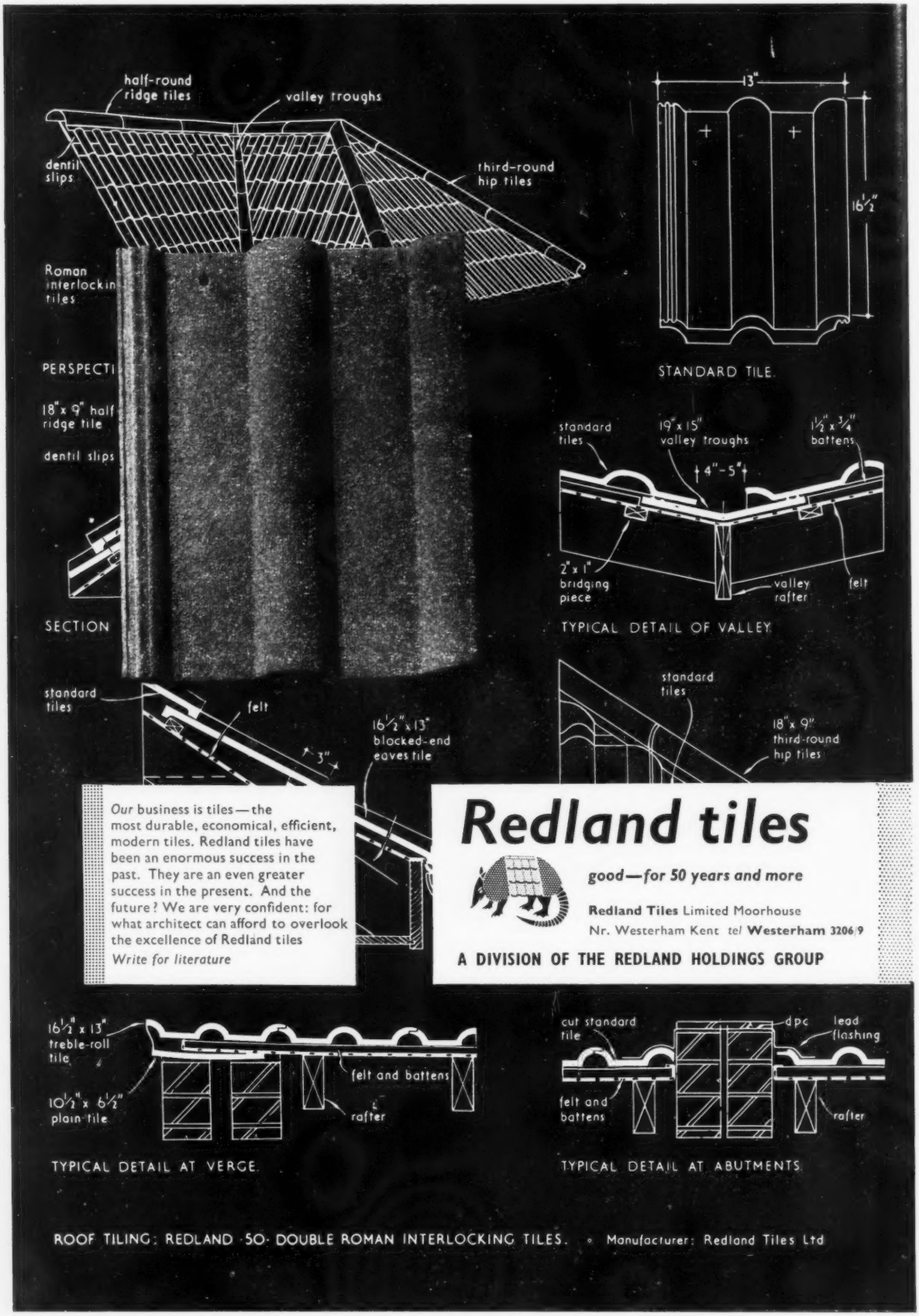
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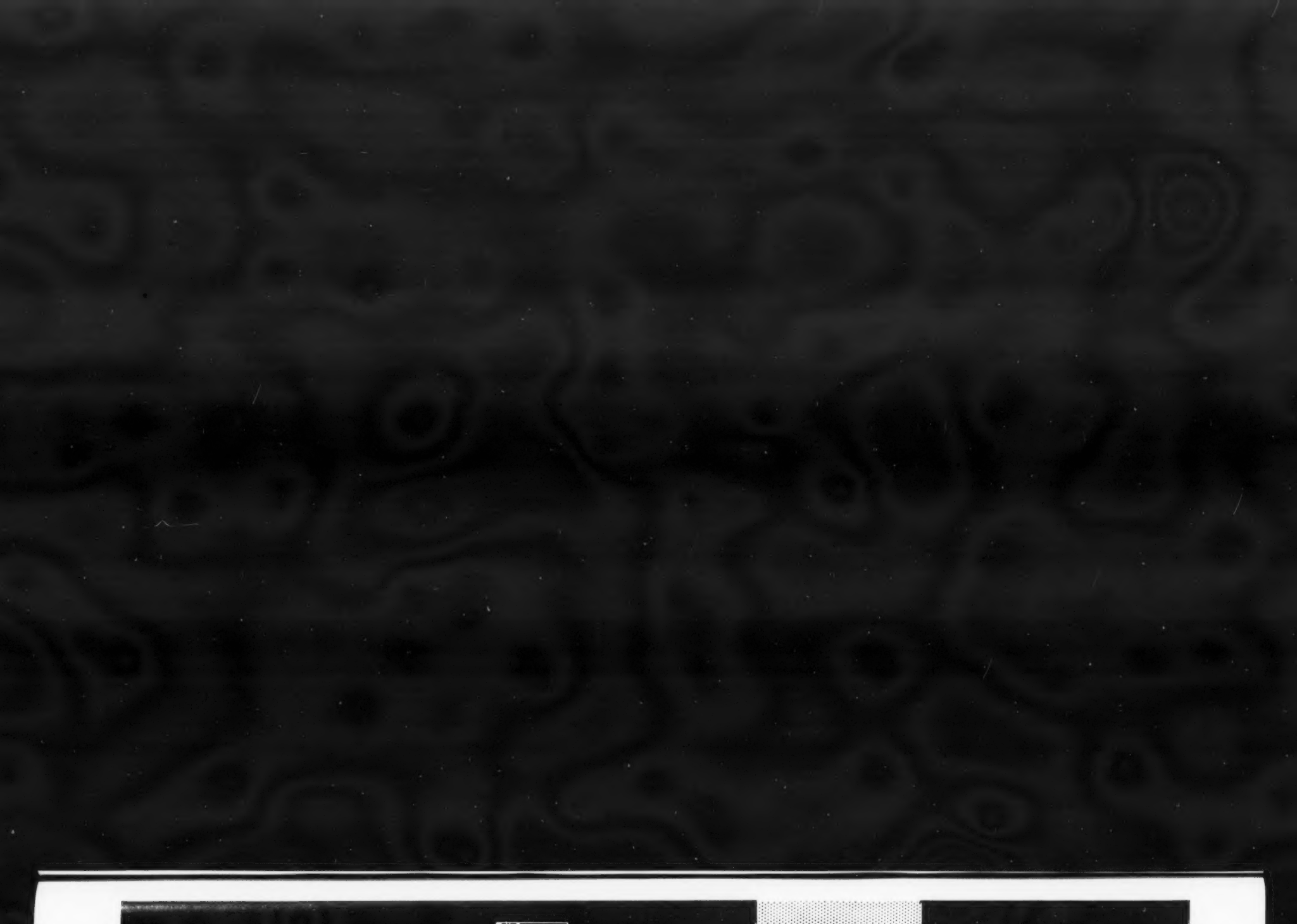
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6,850 SQ. FT. OF BRILLIANT NEW LUMENATED CEILING



Photo by courtesy of Elliott Brothers (London) Ltd.

With a Lumenated Ceiling, lighting is an integral part of the design of office, workshop or showroom. Light of even intensity is diffused from the whole ceiling area, free of shadows, glare or high spots. In premises of every size, this revolutionary lighting technique creates the conditions for improved efficiency. And the attractive, translucent surface of durable plastic modernises interiors by screening overhead piping and projections.

At Elliott Brothers (London) Limited, total Lumenated Ceiling area of 6,850 sq. ft. provides excellent lighting for three large working areas. In the small-part assembly shop of 3,150 sq. ft. shown here, a false ceiling has been erected above the Lumenated Ceiling. In the drawing office, of 3,700 sq. ft., the Lumenated Ceiling diffuses either natural daylight from the glazed roof or artificial lighting, to give an intensity of not less than 35 lumens at the drawing board.

Write for illustrated leaflet which gives full details

L.C

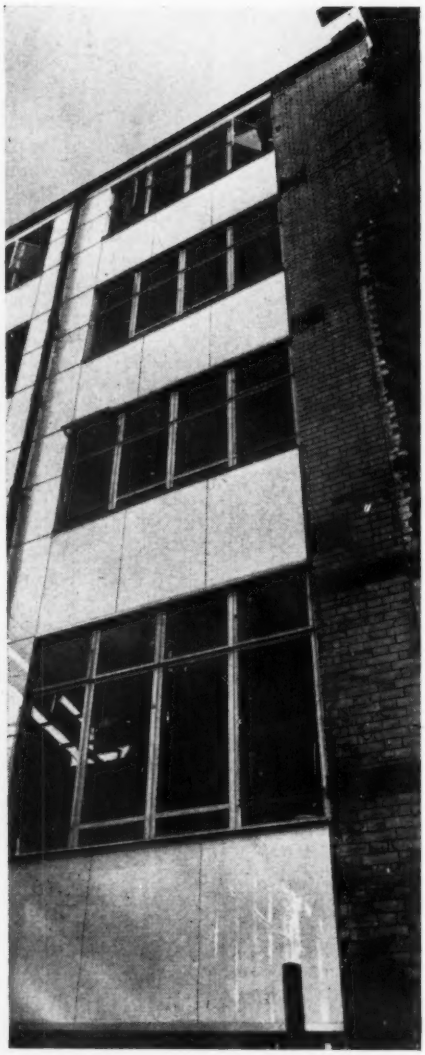
LUMENATED CEILINGS LIMITED

London Office : Alliance House, Caxton Street, S.W.1 Tel : Abbey 7113
Regd. Office : Thermotank Ltd., 150 Helen Street, Glasgow, S.W.1
South African Company : Thermotank S.A. (Pty) Ltd., Simmonds & Godfrey Street, Johannesburg

TGA L9

GLASS

TAKES DAYLIGHT 'DOWN THE WELL'



This unretouched photograph shows the striking contrast between 'Vitrolite' facing and an earlier finish.



Building in Great Tower Street, City of London.
Architects: Ernest Bates & William G. Sinning, F/A.R.I.B.A. *Contractors: Trollope & Colls, Ltd.*

WHEN direct natural lighting is obstructed, reflection can do much to improve working conditions and reduce the heavy cost of artificial illumination.

'Vitrolite', with its brilliant fire-finished surface, is ideal for all external facing, particularly where overshadowing occurs. Impervious to atmospheric impurities, 'Vitrolite' enables an immaculate highly-reflective exterior to be maintained throughout the life of a building.

Clark-Eaton have given special attention to problems of installation, and a neat pleasing appearance is achieved by the use of metal sections fixed to window surrounds.

The panels can be fixed over existing wall finishes.

A special leaflet is available. Please ask for a copy.

JAMES CLARK & EATON LTD.

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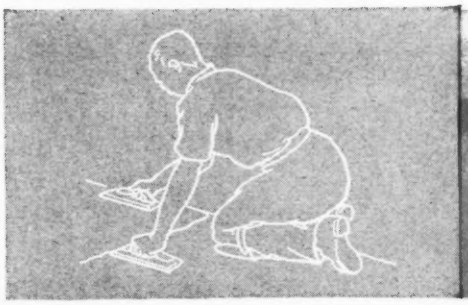
SCORESBY HOUSE, GLASSHILL ST., BLACKFRIARS, LONDON, S.E.1 Phone: WATerloo 8010 (20 lines)

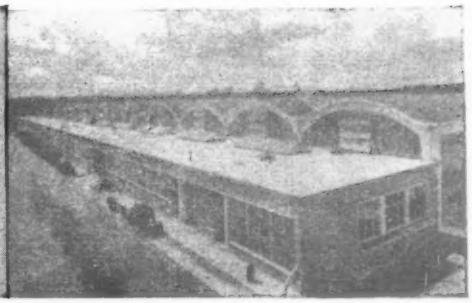
Canterbury, Bournemouth, Eastbourne, Reading, Oxford (H. Hunter & Co.)

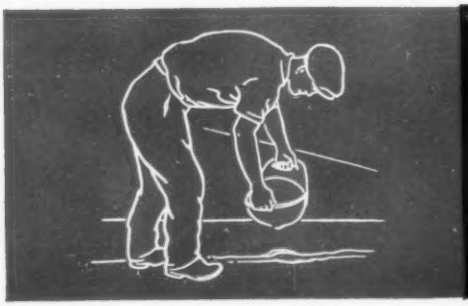
SEE OUR EXHIBIT AT THE BUILDING CENTRE

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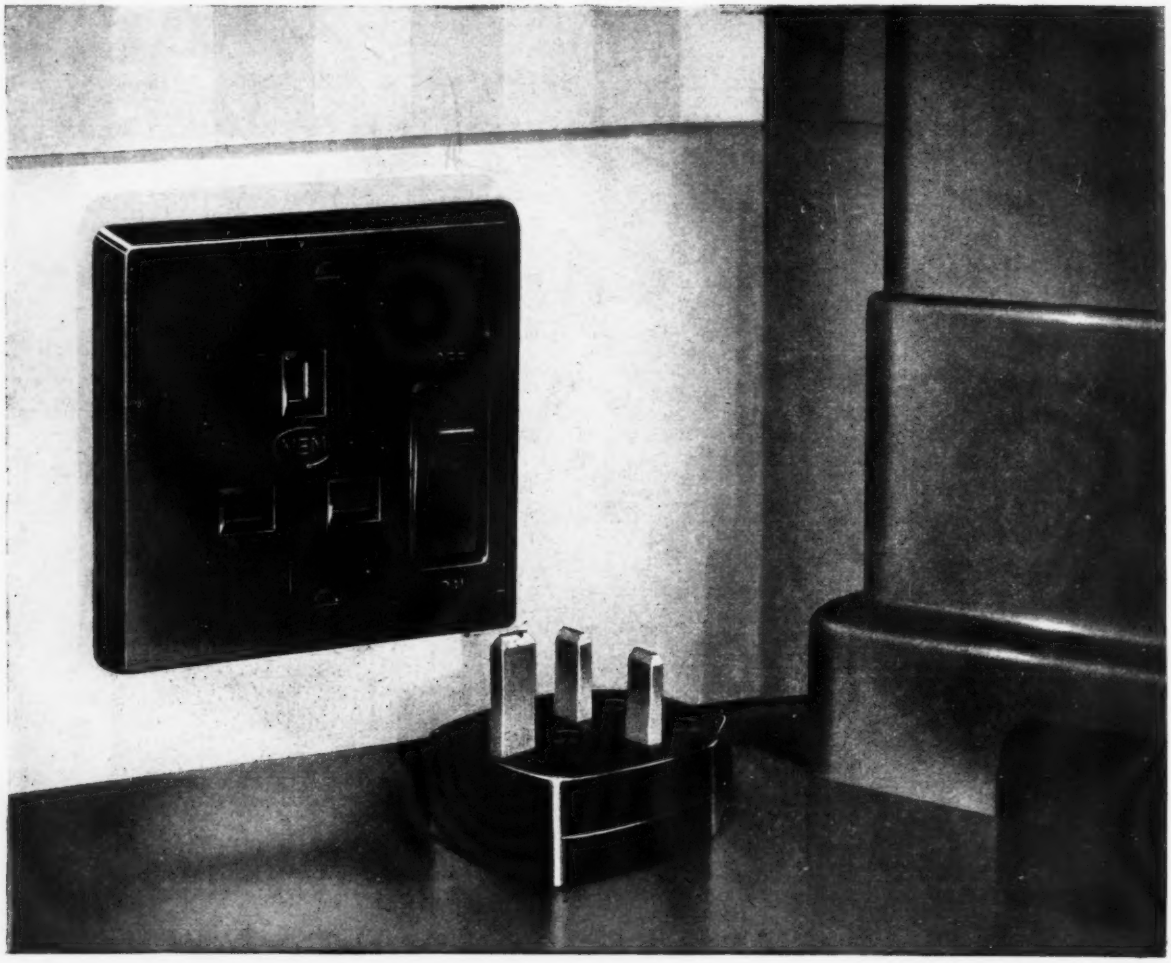






Permanite Limited

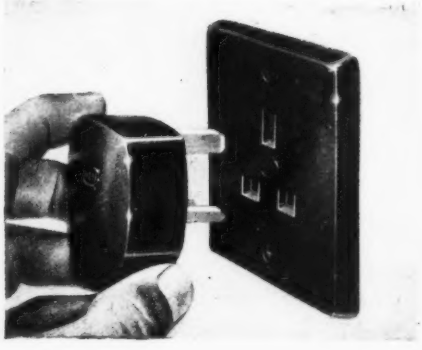
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THE ARCHITECTS' JOURNAL
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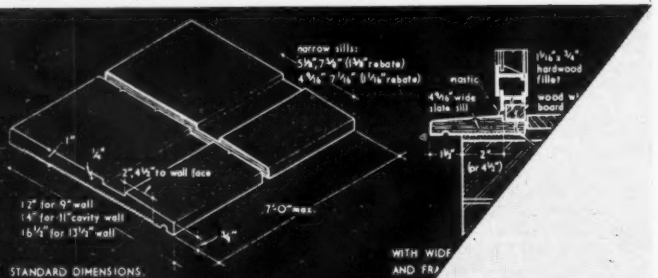


4 BEDFORD SQUARE · LONDON · WC1 · MUSEUM 7101
WORKS: BRISTOL

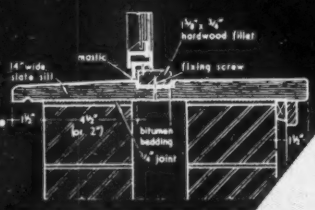
WINDOWS | SILLS | SLATE

24.Z1 N2

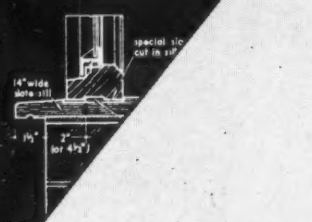
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STANDARD DIMENSIONS.



WITH STANDARD METAL WINDOW AND FR
(CAVITY WALL).





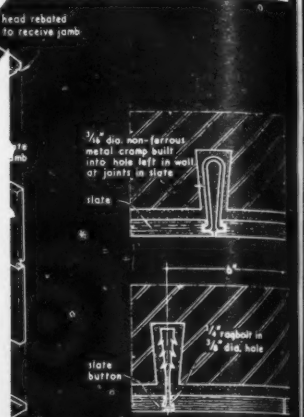
H STANDARD WOOD WINDOW
ND FRAME (CAVITY WALL).

The Bow Slate and Enamel Company Limited.

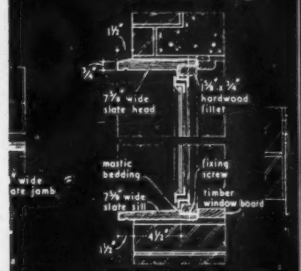
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24

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ALTERNATIVE METHODS OF FIX
SURROUND TO STRUCTURE (
heads and jambs exceeding 6'-0



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WINDOWS | SILLS | SLATE

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STONE | NATURAL | SLATE

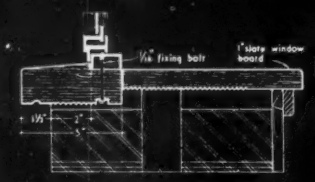
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There are now four Information Sheets on **WINCILATE**

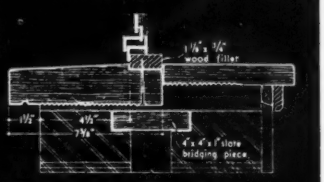
they are obtainable from The Bow Slate & Enamel Co. Ltd.

B.R. Bow Depot, Old Ford Road, London E.3. Tel: ADV 2203

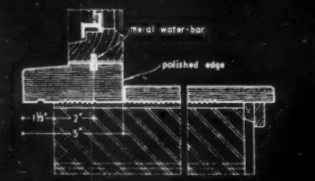
STANDARD DIMENSIONS.



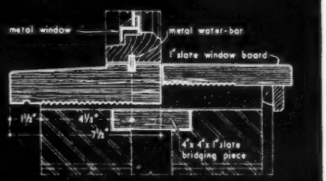
WITH STANDARD METAL WINDOW AND FRAME.
(showing 11" cavity wall)



WITH STANDARD METAL WINDOW AND FRAME.
(showing 11" cavity wall)

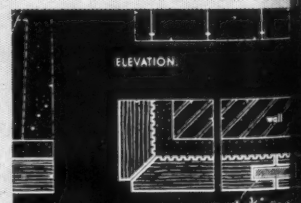


WITH STANDARD WOOD SURROUND.
(with 1-1½" solid wall)



WITH STANDARD WOOD SURROUND.
(showing 11" cavity wall)

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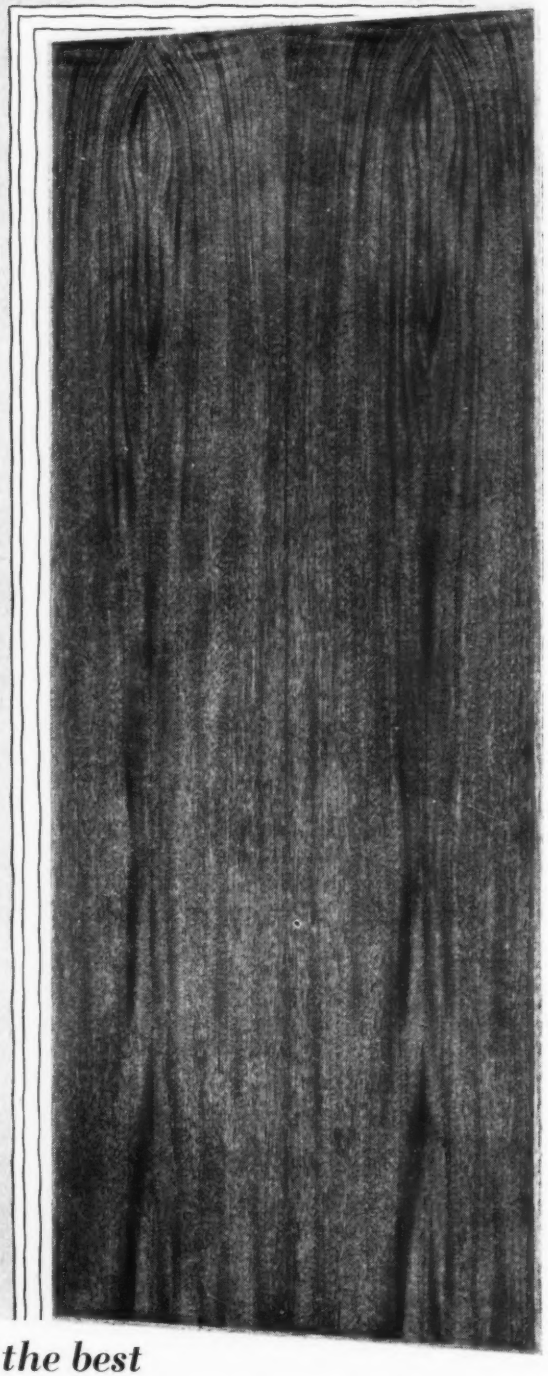


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The Simplicity Factor in Curtain Walling

It is generally agreed that simplicity, speed of construction, scope for functional design, and economy are the cardinal virtues of curtain walling systems. But simplicity is the keystone advantage. For simplicity is speed—simplicity is economy—simplicity facilitates design.

WALLSPAN curtain walling | ***Simple Design***

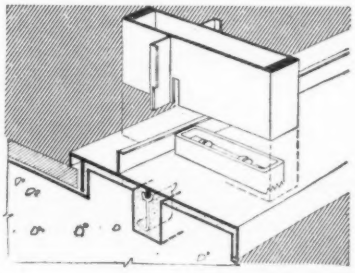
Wallspan is formed of one-piece components extruded from aluminium alloy HE9—which is light, strong and corrosion-resistant. The use of one-piece extrusions for the main members gives a clean and pleasing appearance to the completed installation and, more important, minimises the number of joints on the exposed surface.

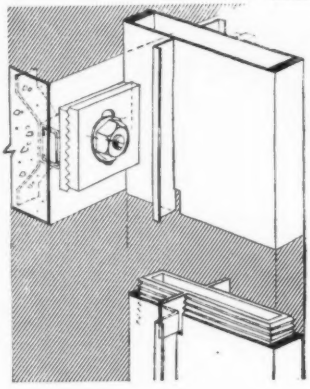
Wallspan mullions are made in three sizes for maximum spans of 11 feet, 15 feet and 20 feet. Four standard transom sections accommodate various weights and thicknesses of infilling. There is a head and a sill member. Auxiliary components—lugs, spigots, etc.—are kept to the minimum. It is true to say that Wallspan is undoubtedly the simplest curtain walling system yet devised.

WALLSPAN curtain walling | ***Simple Construction***

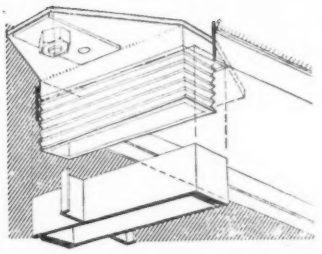
The mullions and transoms described above are fixed into a grid by simple spigot joints. Erection, in consequence, is exceptionally rapid. The grid fixing sequence is shown in the following diagrams.

1 The lowest mullions fit over spigots screwed to the sill member.



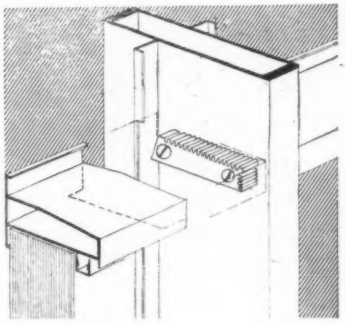


2 Each mullion spans one floor. The spigot joint leaves the head of the lower mullion free (accommodating thermal movement). The foot of the upper mullion is fixed to a floor slab.



3 The head of the topmost mullion rides on a spigot bolted to the structural frame. The grid top is completed by head members fixed between the mullions.

4 The transoms rest on spigots fixed to the sides of the mullions.



The Wallspan Curtain Wall is completed by windows, fixed glazing and solid infilling panels fixed direct into the grid.

It is evident that Wallspan offers remarkable simplicity and speed of construction with a most unusual saving of time and trouble on the site.



Wallspan is going up all over the world! The recently completed Commonwealth Building in Ottawa (Architects: Abra and Balharrie) has Wallspan on all four elevations. An interesting feature is that the louvred spandrels are backed with removable insulating boards which in hot weather are replaced with panels incorporating extractor fans.

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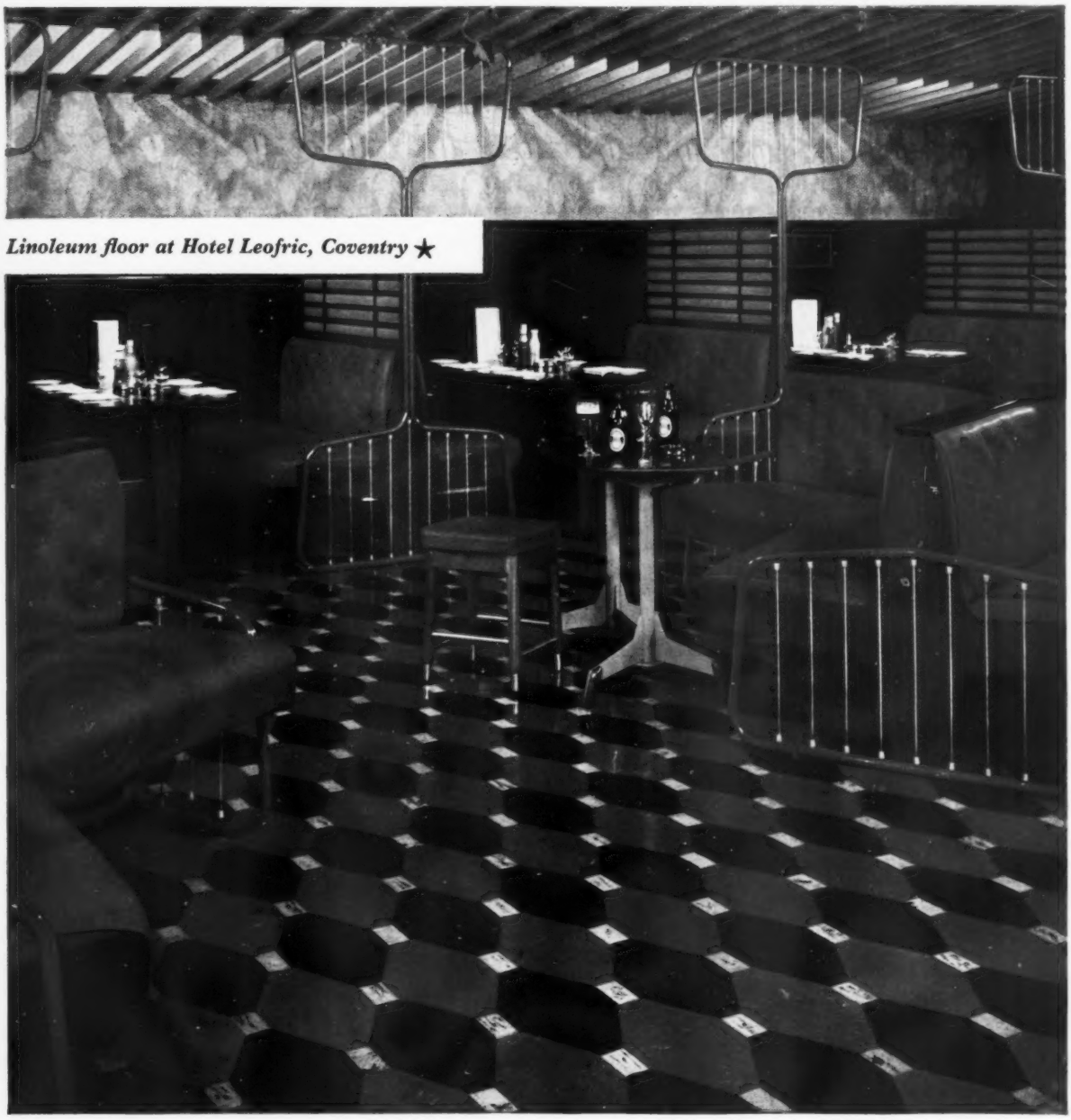
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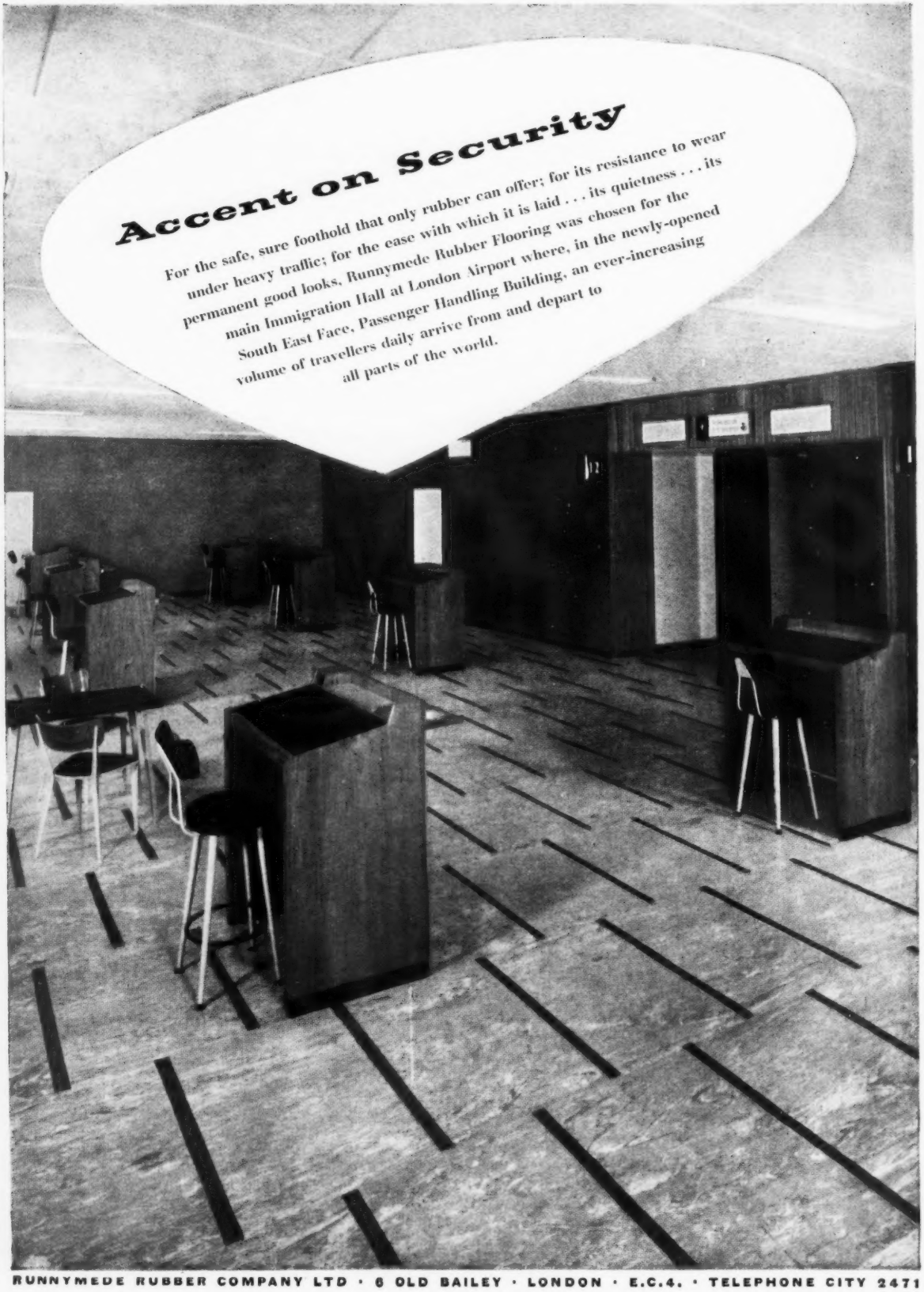
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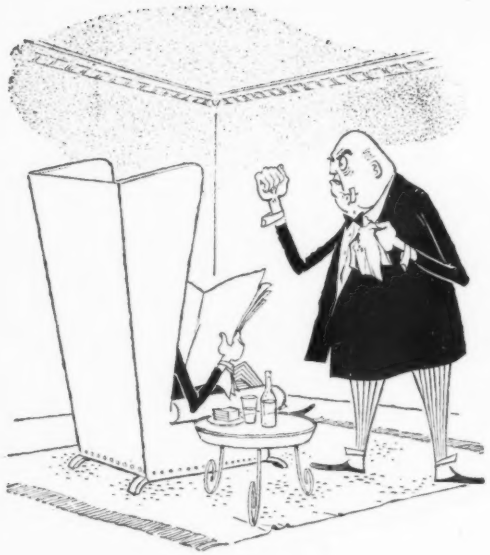
40

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Nothing. Mere scratch. Can't expect
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Master what?

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Exactly. Telephone 28383.
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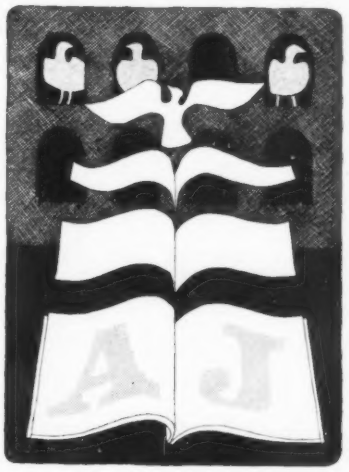
Tough on Millican.

Serve him right!

*
.. ARTISTRY IN RM GLASS

81

THE NEW

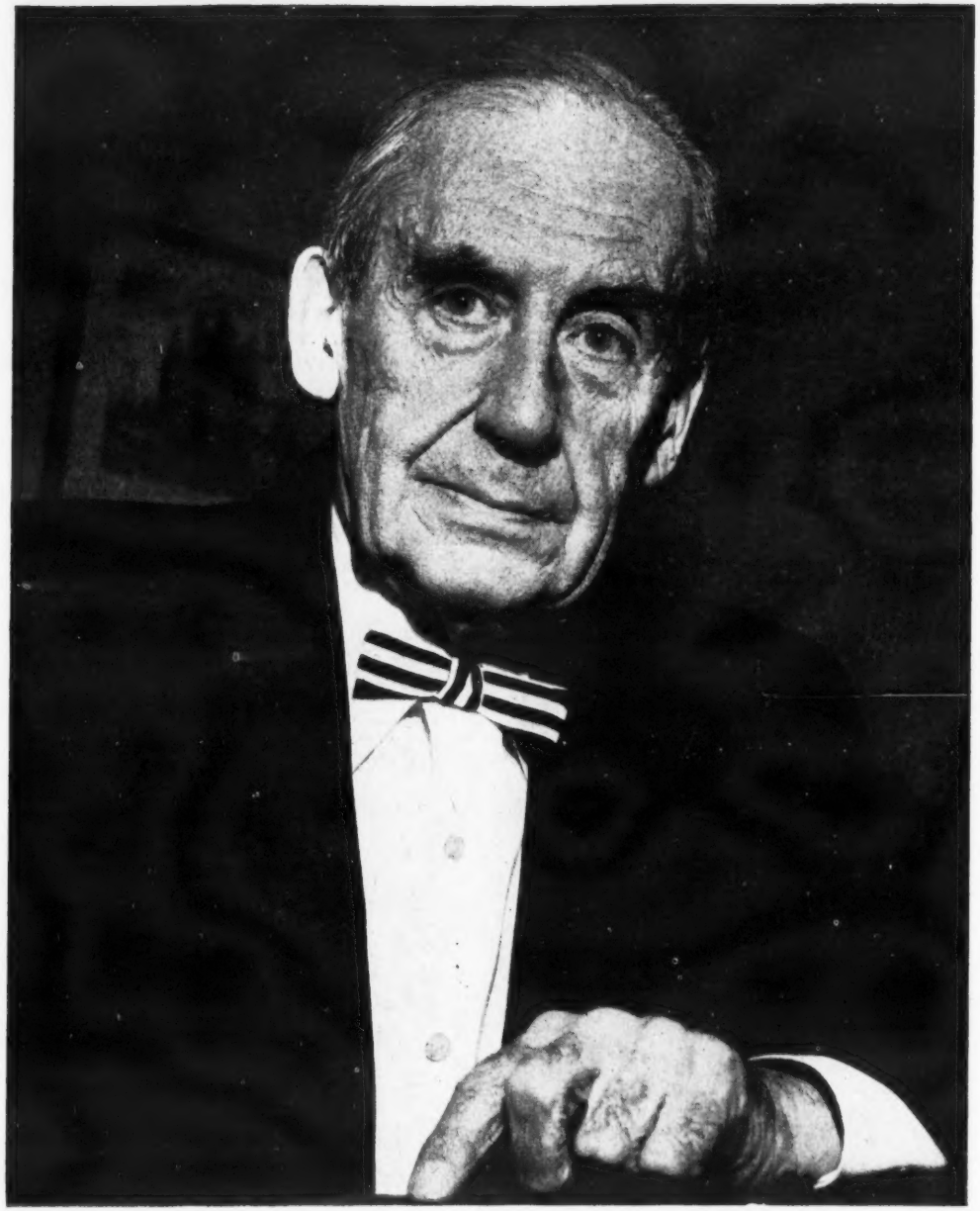


JOURNAL

Now that you have thumbed hastily through the JOURNAL to reassure yourself that ASTRAGAL is not dead but only gone ahead, you will be wondering what this column is doing here. From next week it will be filled with comments on Not-Architecture, designed both for architects and not-architects. But this week it is being put to a more sober use—to remind you that this week's JOURNAL has a new look. And before you remark sourly that the new look seems to mean more advertising pages plumb in the middle of the editorial, let us explain that you are getting even more editorial pages than usual and that the new arrangement is planned for *your* benefit. This is, in fact, the first easy-to-file AJ. With a few quick flicks of a wrist or two you can conjure your pages—Gordon Cullenwise, as above—into their pigeonholes. And that, we have been assured, is what most of you want to do. Many of the features we publish are designed not only for immediate reading but for future reference—and that means almost-immediate filing. If you don't cope with your filing regularly the whole thing can get out of hand, and before long you are grovelling in a cupboard on a sunny Saturday morning, desperately looking for that article on whatever-it-is.

*

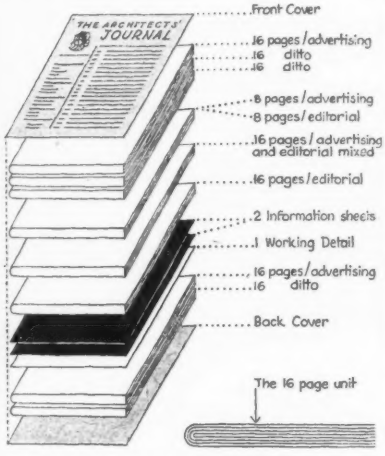
Filing *is* tedious, and we are trying to make it less tedious for you. If you look at the diagram overleaf and study it in relation to this issue you will see



Walter Gropius, Gold Medallist

It is not from the goldsmith's art that the Royal Gold Medal for Architecture derives its lustre, but from the fact that from time to time it is hung round the neck of a truly great architect, like Walter Gropius. Without that it might have been no more than what another great architect called it: a horse-brass, an added burden for the old work-horses of architecture to carry about in their old age. Its award to Gropius honours not only a great architect, but a great conception of architecture—as the unifier of the arts and sciences, as a service to the community, as the product of an integrated team of men. It is a conception that has gone around the world and made him one of the dominating personalities of the architecture of our time. Herein lies an apparent paradox, for the whole tenor of his thought and actions has been opposed to dominating personalities; for him, merit and authority reside in groups of collaborators. Yet the medal comes to him as a single person, the world-wide acclaim comes to him as a person—and would the idea of team-work have commanded so much respect without the force of his personal integrity behind it? Yet his ideas undoubtedly served as a salutary moral and intellectual discipline through the years when Twentieth Century architecture was being created by individual geniuses who normally worked in defiance of the apparent needs of the community, and with a travestied version of the disciplines of science. How will these ideas serve us now that economic pressures are forcing us to accept them: where is the Gropian dream in the age of Patent-glazing, Picton Street contracts, pre-stressing and packaged design-services? For his ideas were corrective, they aimed to maintain honest building, and the inner and outer freedoms (as he has called them) needed to produce it, against the pressures of Architecture-for-art's-sake, and mass-housing-for-the-vote's-sake. Those pressures are going, but the need for honest building remains, the inner and outer freedoms may need more vigorous defence now that the age of scientific techniques, collaborative design and service to a communal client has started to catch up with us with a vengeance. Gropius has mainted his ideas by always shifting his point of attack to the next point of crisis, one jump ahead of the rest of the profession, but he will not be available for ever to show us the way. We must acquire his gift of prophecy, by emulating his turn of mind, not by parrotting things he has already said. It has been said that Gropius has no history, the past does not interest him, his secure grip of the present alone gives him a view of the future. It is no use patting outselves on the back for having befriended him in the Thirties, or medallized him in the Fifties. The need is to project, as he can project, the frames of mind in which personalities may collaborate compulsorily, not voluntarily, without their work losing quality; and now that service to the community is no longer an act of architectural charity, to consider how we may serve individual wants, as well as statistical needs; now that technology and science is about to invade building-design at every level, to see what special attention needs to be paid to the conception of architecture as an art.

how these pages have been arranged so that once you have torn off the back cover and prised open the staples, the JOURNAL falls apart in the most useful way for filing. For instance, the 16-page unit beginning on page 384 is—apart from that one page—the building of the week, complete with cost analysis and—a new idea, this—the list of contractors, which was previously divorced from the main editorial pages. Before this comes the Technical Section in which all features, including the principal article (a new team of architect-authors writes this week about the Herts secondary schools) and The Industry can be removed and filed with ease. (The Industry now backs on to advertising pages and can be cut up and pasted into a book as easily as Information Centre items.) Up to now we have published Working Details and Information Sheets in pairs on alternate weeks. From this week we shall provide one extra Detail in the issues containing Information Sheets. There is one other important change in the JOURNAL. The enquiry form is larger and contains the names of all advertisers. If a reader wants to know more about a building product



A typical JOURNAL

he has only to tick the relevant advertiser's name, write his name and address, tear out the page, fold it and post it to us.

FILE THIS WEEK

The **Industry**	p. 377
Information Centre	p. 378
Development work in **Herts. schools**	p. 379
Mental **hospital** at Wallingford	p. 385
Information Sheets	after p. 398
Working Detail	,,

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* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous

AJ

THE ARCHITECTS' JOURNAL

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The Editors

TO START YOU FILING

THIS week the JOURNAL appears in a revised format. The details of the changes are given on page 365, but in general the alterations are simple. The first five pages consist of comments by the Editors, ASTRAGAL and readers. Then follows the news of the week. After this, and also topical, is a report by Brian Grant of new products from the building manufacturers' world, and the digest of current technical knowledge, the Information Centre. This part, from News to the Information Centre, is interspersed with advertisements, so that any item can be cut out for filing without affecting other articles. Then comes the final section, the contents of which can only be of maximum value if taken out and filed: the technical article; the study of a building, with cost analysis; two Information Sheets and a Working Detail. This is the part of the JOURNAL which is readily detached and will enable the reader to build up his own personal source of reference.

WHO SHOULD ANSWER QUESTIONS?

In the DSIR Report for the year 1954-55* which is just out, the Department laments the fact that, whereas in DSIR as a whole 25 per cent. of effort is spent on "advisory work and *ad hoc* investigations," in Building Research and in Forest Products Research the proportion of effort thus spent is 35 per cent. This is interpreted in the Report as endangering the volume of effort that should be given to acquiring new knowledge; and the remedy proposed is that BRS and FPRL should try and shuffle-off part of their burden of enquiries on to Trade and Research Associations.

Bearing in mind the structure of the building industry (100,000 firms, three-quarters of them employing less than five men) it

*HMSO 7s. 6d.

is not at all surprising that more question-answerers are wanted. The pity is that these have to be drawn from the insufficient staff working on basic research. The number of questions asked of BRS and FPRL, and hence the number of staff required to answer them, is determined by the needs of the industry, and cannot be diminished at will without running counter to the purpose for which the establishments were founded.

It is, of course, an invidious task for the advisory council of DSIR to decide between the ever-increasing claims of the different establishments. The temptation must always be to give a preference to programmes which offer rapid growing, spectacular fruit; which means in practice to give preference to those technologies which are the most advanced. On this count building always comes off badly, for in our civilisation it seems always to be the last human activity to make use of new knowledge. By every right it should be one of the first and it is for the state to recognise this right in the allocation of money for research.



WALTER GROPIUS

The Gold Medal ceremony for Gropius was a curious, as well as a moving affair. A quick sweep of the eye over the packed house at the RIBA showed for a start that there must be two separate student bodies in English architecture; the younger elements present looked very different from the scooterized, taxified, bow-tie-and-black-jacket faction who packed out the Corb presentation; plenty of sports jackets and roll-neck sweaters this time, and more serious-faced architects from the provinces too.

*

There was no official student eulogy this time either. Instead, old associates paid their tributes. It was, one supposes, a bit like the rally of Wellington's old lieutenants at the Waterloo dinners; the old battle-flags wagged and the old war-cries were beautifully and mellifluously uttered. But ASTRAGAL wondered if any of the speakers really understood or tried to practise what Gropius preaches.

*

Some phrases stick in the mind. Sir William Holford said, with feeling, that only a very great teacher was proof against the annual battering of a new set of students' minds, and he likened Mrs. Gropius (a little unkindly?) to the Pilgrim mothers, who not only had to put up with the hardships of pioneering, but with the Pilgrim Fathers as well. Dr. Pevsner remembered how he, as President of the student union at Leipzig, had said: "Of course we must do something about Gropius. Who is he?" And Leslie Martin accidentally(?) included Mies van der Rohe in the roster of RIBA Gold Medallists—a prophecy that will not, one hopes, take too long to fulfil.

*

If you want to know more about this occasion you will find the master and his disciples elsewhere in this issue.

OFFICES IN A NEW LIGHT

ASTRAGAL, who remembers the days when functions organized by the Science Committee of the RIBA could be easily accommodated in the President's room, was much impressed by the vast crowd which filled the Florence Hall last week to assist at the Symposium on Office Buildings. This knowledge-hungry gathering probably went away with not much more than an *hors d'œuvre* inside them—not because the speakers were inept, but because no one really knows anything about the subject. (A symposium of schools might have been rather like this before the days of Herts and MOE.) John Bickerdike electrified (if that is the word I want) the house by delivering a swingeing attack on the high price of light fittings, adding darkly that if the manufacturers are not careful architects will start fixing their bulbs and tubes direct to the structure. That is the kind of talk ASTRAGAL likes to hear, because he has an uncomfortable feeling that businessmen are not going to prove so businesslike about their buildings as the educationalists were, and that no one client is going to have a sufficiently large and continuous programme to bring real pressure to bear on manufacturers.

*

The architects are going to find it more than usually difficult to get what they know their clients ought to want. This means that they must speak quickly, authoritatively and with one voice. It is good to hear that John Madge and his BRS team are well away on a user research programme. Let us hope that the hard facts will not come to light only when most of the offices are built.

CHANGES AT BURY

It is difficult to know *what* to think of the new Dykes Bower proposals for the Cathedral at Bury St. Edmunds. The basic premise of the proposals is unarguable—the existing church is a very tight fit on its diocesan functions, *and* a very tight fit in its site, too. Then there is the problem of what to keep and what to destroy when you start altering things. The nave is good plain William Wastell; the choir—as it exists—is good average Gilbert Scott, and Scott also roofed and floored the nave while he was at it. But the Dykes Bower report seems to take it as axiomatic that the Scott work can and





Proposals for extending Bury St. Edmunds cathedral, Left: beyond the new strainer arch light falls from the new lantern tower; beyond this are wrought-iron grilles and the enlarged choir. Above: the churchyard will be cleared and replaced by a lawn and broad walk. See note below.

should be sacrificed, the Wastell must not. It is difficult to see any force for this argument except sentimentality or pedestrian antiquarianism. Visually the crossing is a dumpy little job, the Wastell work is the sort of Gothic that might be two bays shorter or longer without anyone minding very much, and a drastic replanning of the centre of the church might have given a bolder solution and a less hole-and-corner circulation than the proposed scheme.

*

It is clear, in any case, that Dykes Bower has no intention of keeping in keeping in his design. Its cable-stitch tracery argues vigorously with the old —so much so that straight contemporary, or even a glass box, would come as no more of a jolt to the eye. Externally, the new proposals call for a rather genteel little flêche to mark the crossing on the St. Edmundsbury skyline, taking care not to argue with the celebrated Norman tower that flanks the west front. ASTRAGAL cannot help feeling that if the Cathedral *had* to be given a skymark, the place to put it would be on top of the Norman tower. And the proposal to bulldoze the romantic chaos of the churchyard into a flat municipal lawn is one that should produce a monster rally of Outrage Vigilantes.

THE BRIDGE IN THE PARK

It now seems quite certain that the old iron suspension bridge in St. James's Park will go sooner rather than later. 1957 looks like being the year of its disappearance as well as the centenary of its installation.

*

But let's face it: it's an old, worn-out piece of technical equipment, and we are famous for the speed at which we replace old, worn-out equipment in England. (You know, the Great North Road, the rolling stock on the Fenchurch Street to Southend run. . . .) The MOW, who say the bridge is so weak as to be dangerous, have it shored up for Coronations and such. Is it too much to ask that they test it to destruction as a method of dismantling it, so that we can know just how weak it is, and just what the fallibility of old iron structures is?

*

The new bridge, as you probably know, looks like a distant view of Waterloo bridge in CinemaScope, and is quite unexciting, quite un-Picturesque, and quite the wrong thing for its site. The old one was the work of a great engineer, J. M. Rendel, and a great ornamentalist, Matthew Digby Wyatt. Is it too late to have the new one re-done by the contemporary equivalents whose names are, of course, household words?

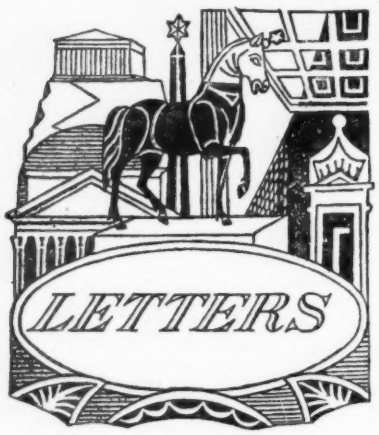
UP WE GO AGAIN

An offer of 2d. an hour by the NFBTE in reply to a demand for 6d. was probably about what the unions expected, but apparently it was not enough, and the dispute therefore went to arbitration. The tribunal awarded 2½d. and the increases took effect from this week. Up go the costs of the job again, whether cement, windows and the other frozen-price goods stay or not.

*

From the householder's point of view the obvious retort is more and more do-it-yourself, but commercial building will presumably go on much as usual. It *might* be possible to cut costs slightly if final accounts could be agreed more quickly, or if more contracts could be arranged at fixed prices without the usual rise-and-fall clause, but these are only chicken feed, though fixed prices can now be agreed for contracts up to £5,000. No doubt the unions will promise increased output, as they did before, but one may well doubt whether anything will come of it. Let us at least be thankful that the industry's negotiating machinery works well and nearly always avoids strikes.

ASTRAGAL



Kenneth Giddens, Student R.I.B.A.

F. W. Gregory, A.R.I.B.A.

J. C. Pritchard, Director and Secretary, Furniture Design Council

Bruce Allsopp, F.R.I.B.A.

B. Bednarczyk, Student

It's the Five-letter Word that Matters

SIR,—I think that the answer to "Architectural Assistant" of Birmingham is short and to the point—become qualified.

I have so often heard the complaints that salaries for unqualified men are too low, that young qualified men are not so useful as experienced unqualified men, etc., etc., but this has to be approached realistically. A man with 25 or 40 years' experience could have spent the whole of that time detailing manholes, but if he has the five magic letters after his name it does at least prove that he has spent a great deal of time improving his architectural knowledge.

If I was an architect in private practice, I would be very wary of applications from men with much experience and no professional qualification, especially as I know the amount of padding put into application forms and, indeed, into testimonials.

KENNETH GIDDENS.

London.

Rewards for the Unqualified

SIR,—If Birmingham "Architectural Assistant" (AJ: April 5) drives a car, when he is asked by the police for his driving licence does he reply that he has no licence but has been driving for ten years and is certain he is more competent than a driver who has just passed his test?

Do employing architects realise the risk they run when they give unqualified men complete charge of contracts? If anything goes wrong and they have to confess the facts in a court of law, what does the client think? Imagine a bus company involved in an accident confessing to an unlicensed driver. Any scale of salaries should cover unqualified assistants and their salaries should be kept down to make them qualify. If the RIBA is to be strong, it must have everyone employed in the profession under its guidance.

Most men who are unqualified and over 30 years of age are capable of passing the special finals, with a year's study, and could have passed normally before the age of 30 with hard work in the evenings. In many cases such men build up positions for themselves in offices while the qualified man is studying in the evening or at a school of architecture, and the qualified man is compelled to work under the unqualified at a lower salary.

The architect who qualifies through a school spends a lot of money and stints himself and his parents to achieve this end. The externally qualified architect spends money and years of spare time to the same end. His salary should compensate for this and the fact that his qualification safeguards his employer when he eventually takes charge of contracts.

Architectural assistants may be badly paid but in comparison to qualified the unqualified are too well paid and over the age of 30 often achieve the enticing figure of £750.

My remarks do not apply to the assistant who is working for his qualification but only to those who give up after their intermediate or who never make any effort to qualify at all.

F. W. GREGORY.

Birmingham.

What the FDC Does

SIR,—It is most important that the journals concerned with architecture should criticise and comment on furniture and, therefore, the article by David Medd was most welcome. I was particularly interested in his comment on the Furniture Development Council stand, which means either that he can't read or that Frank Guille, who designed the stand, should have shouted louder.

Mr. Medd says "my view is that the situation will not improve while the FDC programme is limited to research."

At the FDC stand were the following in what I would have thought were sufficiently prominent positions—anyway they attracted considerable attention from the industry:

1. The application of research to the structure of cabinet furniture. This research gives to the designer for the first time information that would enable him to use material more effectively (*a*) in its economical use, and (*b*) in providing greater rigidity.
2. Research into the application of chipboard for use in furniture.
3. A panel concerned with costing—(*a*) Product cost. (*b*) Comparative costing.
4. Method study, and in general the Technical Information Service.

From this it is clear that the FDC programme as shown on the FDC stand is not, as Mr. Medd suggests, limited to research.

His comment that the effect on the industry is small is hardly borne out by the facts which were shown clearly on the stand, indicating that during the last 5 years there has been a steady increase in the use of all the Council's services and that now firms representing well over half the turnover of the industry use one or more of these services.

I am glad he paid tribute to the BSI for rolling up their sleeves and using loudspeakers and posters. These techniques are essential if the BSI Standards for domestic furniture (which incorporate the FDC Performance Tests) are to be understood by the public. The FDC have supported this programme with considerable force and with money.

J. C. PRITCHARD.

London.

A Matter of History

SIR,—By quoting a number of phrases out of their context ASTRAGAL gives a rather misleading impression of my *General History of Architecture*. May I have just enough of your valuable space to comment on two of the points he raises?

I say the Baroque movement was sterile because it was not followed by another creative movement which was directly descended from it. I greatly enjoy Baroque architecture, but I believe it reached the limits of what was possible in that direction. The attempt to go further produced monstrosities such as the architectural designs of Meissonier.

ASTRAGAL properly tells me that my grounds for dissent from fashionable opinion must be relevant to ascertainable facts; I agree. I am reproved for saying that the dissolution of the monasteries was a distressing event for architects; it was. It is all very well for ASTRAGAL to exclaim that surely the Thorpes and Smythsons did very well out of it, but the hard economic facts are given in my book and they are supported by a formidable body of modern historical scholarship.

BRUCE ALLSOPP.

Stocksfield.

Astragal replies:

"Mr. Allsopp's letter can be dealt with quite briefly and factually. The text of the book, page 149, would not appear to say anything about the Baroque movement failing to produce any creative descendants. It is useful to know, however, that that is what Mr. Allsopp meant, as it reduces the contradiction between the visible meaning of the paragraph which refers to monstrosities, and the last paragraph on that page which refers to work of enduring value.

"The nearest thing to a 'hard economic fact' about architects after the dissolution of the monasteries is the statement on page 166 that 'Some apparently left the towns and went to live in the country.' The rest of the paragraph is about *masons'* wages. The phrase 'nearest things to architects' was deliberately used by me in criticizing Mr. Allsopp because, as he must know, neither the profession of architect, nor the word for it, existed in England at the time of the Dissolution. We have evidence, however, that the Thorpes and Smythsons did at least functionally resemble architects as we understand the word, working under contract to clients, making drawings of, and for, their work, etc. Can Mr. Allsopp offer, in return, the *names* of any other Tudor subjects so closely resembling architects, who suffered by the Dissolution?"

Builders Don't Want Students

SIR,—Co-operation within the building industry is a subject of current interest in your journal. That the architect should work together with builders as well as consultants is the opinion of many architects, builders and others from the industry judging from utterances on public occasions and from letters.

Presumably students should be prepared for this co-operation. It seems that all sides agree that the architect should be at the apex of the pyramid of knowledge required for a building to be built, the chief co-ordinator. He is the man who gets the job, as well as the person "concerned primarily with the appearance of buildings" certainly nobody else is.

Presumably the best way for students to be prepared for this task is to spend some time of their training on the building site, not only on site visits but directly in em-

ployment under some site agent or craftsman.

I have been trying to get such employment with the major building firms. None of them could offer it. One replied that I could only find this type of work if I was going to take building as a career.

Since while working in an office I have not been able to go away from the drawing board, and since at the school I only managed to go on an occasional site visit, I continue wondering how craftsmen and builders work and how, when qualified, I will be able to direct their efforts through the medium of tracing paper.

B. BEDNARCZYK.

London.

The Editors write: We asked a building contractor about this student's problem. He replied that it might be difficult to find a job for architectural students for a limited period. They might act as assistant foremen, but it would take them some time to learn the work. Builders have only a limited number of places for students and they believe that preference should go to "builder" students. We suggest that Mr. Bednarczyk approaches the LMBA with this problem.



RIBA

Symposium on Office Buildings

The RIBA Science Committee's Symposium on Office Buildings, which took place on April 12 under the ideal chairmanship of Sir William Holford, promised to be an entertaining but hardly fruitful afternoon and evening (writes a JOURNAL Editor) until John Bickerdike talked about lighting problems. Making the point that internal planning in depth was not feasible before the fluorescent lamp reached its present phase of development, he suggested that just as modern building technique had given us high building, so might the fluorescent lamp give us wide building.

The pioneer work of this kind is a new 23-storey office block in Denver (discussed incidentally by an earlier speaker, H. Fitzroy Robinson) which measures on plan 127 ft. by 152 ft. and shows clerical spaces which are 75 ft. deep from rear wall to window. Further, since lighting is no longer dependent in any way on daylight penetration, the floor to ceiling height is only 8 ft. 6 in.

The Post War Building Study No. 30, *The Lighting of Office Buildings*, gave its support to the idea of supplementary lighting to increase the working depth of offices (*i.e.*, excluding filing space) from the 12 ft. which daylighting alone allows to 22 ft. This, if acted upon, would increase the total thickness of the office block from the 40-45 ft. now usual to 50-60 ft., resulting in an increase of from 20-50 per cent in usable office space.

John Bickerdike also discussed the continual raising of levels of illumination. The Code of the Illuminating Engineering Society now recommends 20 lumens/sq. ft. for general office work, but the rate of increase since the war suggests that levels of about 50 lumens/sq. ft. will be common in a few years, while present American practice favours round about 100 lumens/sq. ft. This logarithmetic progression in levels is not fortuitous, but is determined by the capacity of the eye to appreciate intensity differences.

Mr. Bickerdike discussed two problems raised by this phenomenal increase in lighting levels: costs and the generation of heat. He produced a table showing the cost per sq. ft. floor area of supplying fittings for an office of approximately 250 sq. ft. to be lit to an ascending scale of illumination levels: from the pre-war 6 lumens per sq. ft., when the figure was 4½d., to the American standard of 96 lumens when it would be 20s. Commenting on these figures he remarked that present costs were 15 times the pre-war figure and represented as much as 5s. 6d. per sq. ft. in the total cost of a building costing, say, £4 per sq. ft.

Passing to the question of heat he pointed out that the fluorescent lighting at the 50 lumen level generated as much as 4.5 watts/sq. ft.—which was nearly enough to supply the winter heating of a well-insulated closely-planned building. In summer this was too much of a good thing, he said, and in Canada it had been found necessary to attach water cooling tubes to carry off excess heat.

Questioned later on what he considered to be a reasonable level of illumination for offices where fluorescent light must compete with daylight, he said "not less than 30 lumens."

LAMBETH

Planning Exhibition for the Citizen

Speaking when opening the Lambeth Civic Society's exhibition, "Planning and You," Mr. N. Prichard, the Chairman of the LCC, said that the opportunities for replanning, lost after the Great Fire of 1666, would not be lost this time—a confident statement with which it is hard to agree. Otherwise his speech was all good sense on the value of planning, of high flats for small families, of the advantage of planning in depth, to give variety of skyline and views, on sites such as the South Bank, an area one replanned as a "cliff of buildings" on the new front. "Planning and You" is on view at the Astoria Cinema, Brixton. The exhibition consists of a number of varicoloured screens held by black metal frames. The screens show how town planning has affected Lambeth, and the ordinary citizen in his daily life. One sequence shows how an industrialist is helped to move his factory from slum conditions out of London when permission for expansion is refused. The actions a citizen should take on wanting to build or expand his premises are also shown—including advice on employing an architect. The Lambeth Civic Society, who organized the exhibition, with help from their Borough Council and the LCC, deserve to be congratulated on their initiative and public spirit. The exhibition was completely designed by H. Owen Lader, A.R.I.B.A.

Dr. Walter Gropius received the RIBA Gold Medal last week. These are extracts from his speech and from the speeches of those who went to RIBA to pay tribute to him.

DR. GROPIUS

"England's Second Friendly Welcome"

After the RIBA President, C. H. Aslin, and five other speakers had paid tribute to the Gold Medallist and his work (see the reports overleaf) Dr. Gropius had this to say:

Your generous words of friendship and appreciation have fallen on the ears of somebody who, for many years of his life, has had to make a stand alone and without the backing and encouragement which come naturally to a man who is identified with the specific national background into which he was born.

But what I lost on the national plane was generously awarded to me on the international plane, and now that my English colleagues have pronounced their verdict and admitted my name to the distinguished rostrum in the hall of the RIBA building I feel more of a world citizen than ever.

This is the second time that England has given me a most friendly welcome, because soon after Hitler assumed power in Germany I arrived penniless in London, and only the helpfully extended arms of Jack Pritchard and Maxwell Fry, who took me on practically unseen, cushioned the shock to me. It took some brainwashing to convert me from a metre-conscious to a foot-conscious architect, but after that, when Max Fry and I felt ready to take on an avalanche of commissions, unfortunately the political horizon began to cloud over and building initiative, which depends so much on an optimistic atmosphere, was only moderate.

I left England and many friends, not at all sure at that time whether I was doing the right thing in accepting an assignment for teaching and in changing again to another country, when all I wanted to do was to build. With my job at Harvard I was for many years so swallowed up by my new duties that it was almost impossible for me to pursue at the same time the aggressive campaign for commissions that an architect is supposed to wage in the United States. Coming from Europe, where, as a rule, clients pick their architects, I had moved to

DIARY

Toys and Films of Charles Eames. Discussion and exhibition. Speakers include Lawrence Bachmann. Chairman: Lawrence Allaway. At the ICA, 17, Dover Street, W.1. 8.15 p.m. Members 1s. 6d., guests 3s.

APRIL 19

Exhibition of Paintings. By E. B. Musman, F.R.I.B.A., and Pamela Johnstone, to benefit ABS. At Parsons Gallery, 70, Grosvenor Street, W.1. 10 a.m.—5 p.m. By arrangement with Thos. Parsons & Sons Ltd.

UNTIL APRIL 20

Housing in Chile and in Latin-America generally. Talk by René Urbina, Architect to Ministry of Public Works and Housing Institute of University of Chile. At the HC, Suffolk Street, S.W.1. 6 p.m.

APRIL 24

Burle Marx: Brazilian landscape architect. Exhibition att he ICA, 17, Dover Street, W.1. Monday to Friday 10 a.m.—6 p.m., Saturday 10 a.m.—1 p.m.

APRIL 20 TO MAY 26

a country where architects pick their clients, and it took some more brainwashing to break me into this new concept and working method. I tried to explore the practical field of architecture in an unknown land, while at the same time keeping control of my newly introduced educational programme at Harvard University. Then soon, in consequence of the war, I was forced to close my private office for the third time.

When, after the war, a fantastic number of veterans converged on the universities, under the liberal educational programme of the United States Government, the Harvard Graduate School of Design was under a tremendous strain, and there was little chance for me to split off enough time singlehandedly to start my building practice again after such a long involuntary pause. During the teaching career that had been forced on me by circumstances, most people had come to think of me as a teacher foremost, and this in the United States, in contrast with Europe, was almost synonymous with withdrawal from practical participation in designing and building. There is an American slogan which expresses this attitude very neatly: "Who can—does; who can't—teaches."

I had from the beginning taken a strong stand against this separation and had accepted my appointment only under the condition that I could maintain simultaneously my own architectural office, an arrangement which has subsequently been widely accepted in the American Schools of Architecture.

Therefore I welcomed it when some of my former students and their friends, having returned from the war, took me up on my own tenets with a proposition to set up a team of architects who would carry into practice a scheme of collaboration which I had long stressed and rehearsed at Harvard. This, my team, The Architects' Collaborative, has now stood its test for over ten years. My strong inclination for team work has increased with time, but I find that our set-up has often been a conundrum to friends and to the Press, who do not know who is who or who does what. The English *Architects' Journal* even called me a few days ago, an enigma. Small wonder, for our society is still so obsessed with the idea of the individual genius, working in splendid isolation—a bequest of the last century—that we cannot conceive of cultural achievements in any other sense. Still in the eighteenth century such exalted individualism was much less pronounced, and today, I believe, we are well on our way again to reclaim the individual talent to work as *primus inter pares* in a group.

My first comprehensive collaborative effort has been, of course, the Bauhaus, and all who partook in that venture are nostalgic to this day for the inexhaustible stimulation that arose for all of us from this collective task.

In accordance with this experience, I later on abandoned the old boss-employee relationship in my architectural office in Germany, putting the emphasis on the group. Today I go even further. I work with seven partners and five associates, and we emphasize the group name above those of the individuals. This does not mean that the members of our group do not have full individual responsibility for their respective jobs, but each individual contribution passes inspection by the whole team, and wherever flaws or inconsistencies are detected the job is handed back for reconsideration to the job captain, who, however, makes the final decision himself.

For the past years some of my partners have been quite engrossed in designs for school buildings, while others have supplied the United States Air Force with airports and housing facilities. I myself am at the moment concentrating on one of my pet ideas, the development of a civic centre for Tallahassee, the capital of Florida. At the same time I am working on a large scheme for the rebuilding of a bombed part of my home town of Berlin, in Germany. Shortly before I left for England we were asked to design the United States Embassy in Athens, so I shall have the pleasant duty of going to Greece in May to investigate the site.

The pooling of diverse talents and interests makes working in a Collaborative a many-sided experience, and each member is less in danger of getting into a self-centred rut. By long practice I have come to the conclusion that working in teams keeps our vanities down and increases individual freedom and initiative on a much broader basis. Of course, the creative mind asserts itself usually in any circumstances, even against heavy odds, but, if we want to raise the average performance, team work becomes essential to sharpen and improve the individual contribution.

I believe that this approach contains a true democratic spirit. For how can we establish a system of collective security among the nations unless we first develop attitudes and techniques of collaboration in our own set-up? This seems to me to be the *conditio sine qua non* before we can reach our cultural goal—unity in diversity.

Following are the tributes paid to Dr. Gropius earlier in the evening:

The *PRESIDENT:* I think that if Dr. Gropius had any fear that the occasion on which he came here to receive the Royal Gold Medal might be a solitary one, that fear has been dispelled by the very large audience that we have here this evening. I am sure it must give him great pleasure to find that he is looked upon as a great person not only by the leaders of the profession but also by the youngsters of the profession.

I do not propose to say anything about Dr. Gropius, partly because everybody knows all about him and partly because we have with us half a dozen people who have known Dr. Gropius at various stages of his life and who are going to address us. I will therefore only express our delight at having Dr. Gropius here amongst us and assure him that this is no merely formal occasion but one which indicates our regard for a great man in architecture.

I will now ask Sir Herbert Read to be good enough to say something to us about certain aspects of Dr. Gropius's work.

Sir *HERBERT READ:* The Bauhaus was an idea, we say; but it was more than that. It was a new way of life, a new vision. Dr. Gropius himself has said that "the object of the Bauhaus was not to propogate any 'style,' system, dogma, formula or vogue, but simply to exert a revitalizing influence on design." He did not base his teaching on any preconceived idea of form but "sought the vital spark of life behind life's ever-changing forms. The Bauhaus was the first institution in the world to dare to embody this principle in a definite curriculum."

What is there so revolutionary in such a principle? Simply this: that for centuries our schools and academies have based their teaching not on "life's ever-changing forms" but on a body of knowledge that we can call eclecticism, a system of rules and precepts derived from the rational analysis of the artefacts of the past, works and monuments that were alive centuries ago but that are now passionless and irrelevant.

Walter Gropius has destroyed for ever the old idea of a static dogma. He has destroyed for ever the old idea of separate arts pursuing their own discordant aims. He has destroyed for ever the unnatural divorce of art and society.

The Bauhaus idea, conceived forty years ago, established by herioc strife and labour, at the cost of persecution and exile, is now the faith of every vital artist in the world.

Professor Sir *WILLIAM HOLFORD:* I suppose there are really three qualities which a teacher of architecture must have if his influence is to penetrate and also to endure. Other qualities he may have in addition, but these are indispensable. The first is to have ideas and to be able to communicate them; the second is the ability to convince students that what they are doing is immensely important and exciting and worthwhile; and the third is the kind of imagination that relates the part to the whole, that relates the detail of design to the broad composition and that relates the technical achievement to the vital movements of the time.

These qualities are now, and have been throughout his life, the mark of Walter Gropius the teacher. Had it not been so his students would long ago have found him out. For of all people the teacher has to be most completely proof against the battering, year after year, of new intelligences and new enthusiasms. It is something to have been a notable teacher, but it is something more to continue as a notable teacher and to be one still. If you doubt this, go to any architectural school in the United States or go to CIAM or go to meetings of architects in Brazil or China or Peru, and you will find a willingness to listen to what Walter Gropius has to say which must be the envy—and occasionally the despair—of other teachers in different parts of the world. Sometimes that willingness has expressed itself in imitation too thoughtless to be really flattering, but at the same time I think it has usually been sincere.

To stick to one's principles and yet continually to extend one's sympathies requires strength of mind and great humanity, and I think it is wonderfully assisted by a gift which Walter Gropius shares with a number of other great teachers, such as Bertrand Russell and Albert Schweitzer—an unquenchable belief in the virtues of co-operation. It is not fortuitous that Gropius's present architectural practice is known as TAC—The Architects' Collaborative.

THE MASTER....



Dr. NIKOLAUS PEVSNER : I think it can safely be assumed now that it is an established fact that Walter Gropius is amongst the four or five pioneers of the architectural style of the twentieth century, but what perhaps is not so easily understood by the many young people whom I see in this room is the tremendous effort that must have gone into its creation. You younger people here are very lucky. You are once again working in an idiom which has for you become an established idiom. You are very much like the designer in the Gothic style or in the Georgian style. You may dilute the idiom, you may develop it, intensify it, humanize it and do all sorts of things with it, but the idiom is there. When the Gropius building went up at Alfelt in 1912, the idiom had to be created, and that would, of course, qualify a man for the highest honour which this country can give to an architect from abroad. Perhaps it would be right to say that the perfect architect today must be an artist, the head of an organization, and a human being of a burning social responsibility. Walter Gropius possesses all those three qualities, and in his life and his work they have continued to cross-fertilize each other. He has never allowed the artist to break out of the wholesome discipline imposed by the organizer and the social reformer, and it is hardly necessary to say that he has never allowed the organizer or the social planner any inroads into his artistic integrity.

Discipline and integrity—they have marked Gropius's work with the young, of which Sir William Holford has told us; they have marked his study of mass housing, which contains food for thought for many years to come, and they have marked his recent pronouncements on the relations of the architect with the building industry.

Discipline and integrity—I have never in my life met these two qualities united in one man so powerfully and so intensively as they are in Walter Gropius.

Dr. J. LESLIE MARTIN: I speak as one who was being trained when Dr. Gropius was carrying out his great experiment at the Bauhaus. I am one of the many students in Europe who were inspired by that tremendous effort of integration which he made, by the idea of the fusion of art and technique, by the conception which involved the working side by side of the architect, the industrial designer and the painter, and, above all, by the way in which Gropius balanced the hard facts of an industrial age with the question of human values.

The important thing about all this seems to me to be that Gropius set by his educational system a pattern for a correlated development of design in an industrial age, and he has spent his life in filling out that pattern. Those works of architecture and industrial design which he has created are tremendously important in themselves, but I do not believe it is important to Walter Gropius that he should have established a style. It is the method on which he lays the stress, and that method is being continued by his students—who are now teachers, architects, furniture designers, weavers and typographers—all over the world.

It is therefore very difficult to pin down the influence of Walter Gropius by looking at a few buildings and pointing out derivative examples. His influence is far more subtle. It is an influence of an infiltrating and multiplying kind, and it is not surprising to me that that influence has spread throughout the world.

J. M. RICHARDS: As an architectural philosopher Dr. Gropius has been concerned with the same thesis for forty years, because the world has not in all that time come properly to grips with the problems of industrial production which he saw so clearly from the beginning to be the clue to modern architecture. That does not mean that Gropius has been saying the same thing for forty years. The ideas that he shapes for our instruction are not static; they are always changing according to the particular realities against which they have to be tested. Whenever he re-states the old problem of design and the machine, now in terms of prefabrication, now in terms of the relationship between buildings and the broader environments which man makes for himself, and now in terms of the need for architects and contractors to enter into a different kind of partnership, we realise that in some magical way he has put his finger on the very problem that we were just about to discover to be the key problem of the moment.

But I do not want to speak as though Dr. Gropius were simply a theorist. We admire his qualities as a teacher and a philosopher, but we should know that his strength in these rôles is due to the fact that he has always been a practising architect. His special quality as an architect, I think, is that he has always been intensely aware of the needs of the society for which he is planning, by which I mean the people who are to occupy his buildings, not society in some abstract sense. Indeed, when I cast around in my mind for an explanation of why Dr. Gropius has stood so high in the estimation of the architectural world during the thirty years since I was a student, through all the fluctuations of fashion and reputation that have taken place, I come to the conclusion that it is very largely because everything that he builds is an immediate response to a practical human problem, and he has never allowed theoretical considerations to divert him from the simplicity of that response.

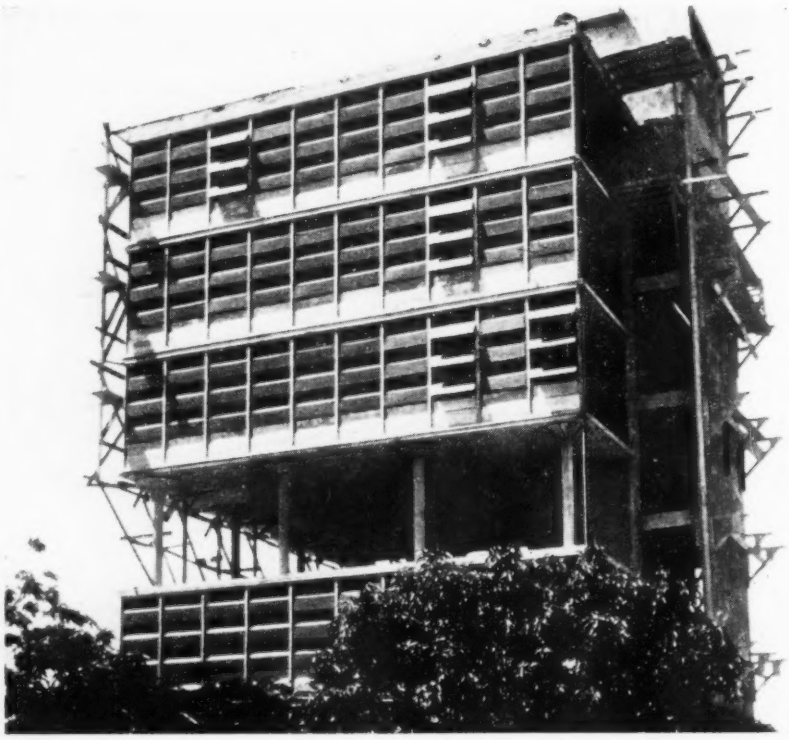
Much of Gropius's work has been experimental, but not at his clients' expense. We owe a great deal to architects who have had the intrepidity, or the sense of the importance of their mission, to pursue their visions of the future whatever may be the realities of the present. The occupants of their buildings are the martyrs without whom no great cause moves forward. But Dr. Gropius does not need to use his buildings to demonstrate a theory, since his theories themselves arise out of his understanding of the way in which people use buildings and building resources at the present time and in the present circumstances.

E. MAXWELL FRY: As a young man Gropius was granted an idea of what our life could be, so complete, so grand, so beautiful as to give him as much right as Jean Jacques Rousseau to make for the nearest housetop and blazon it abroad to the world; but Gropius had also a character so strong, a bearing so modest and a heart so loving that instead he gathered his friends about him and shared the idea with them. With this idea and with this group of friends he set to work and, with infinite patience and care, less for himself than for the idea, he planted it in fresh young soil. At Weimar it grew and flourished and, despite opposition and war, and despite his own transplanting, it spread like the cedars of Lebanon until it covered the earth. There are none here who do not rest beneath its shade or eat of its fruit.

.... AND HIS DISCIPLES

Dr. N. Pevsner *Dr. J. L. Martin* *J. M. Richards* *Maxwell Fry*





CO-OPERATIVE BANK, ACCRA JAMES CUBITT, SCOTT & PARTNERS, *Architects*

HOPE'S

'Z' TYPE LOUVRES

PATENTED

seen above during installation on the east elevation: the west elevation is similar. 'Z' type louvres were designed to combat tropical heat and glare while providing full ventilation. They are ¾" thick with a metal outer skin, lined with insulating material, and are pivoted on weathertight bronze cup pivots. They are coupled for simultaneous operation and mechanically held in any position

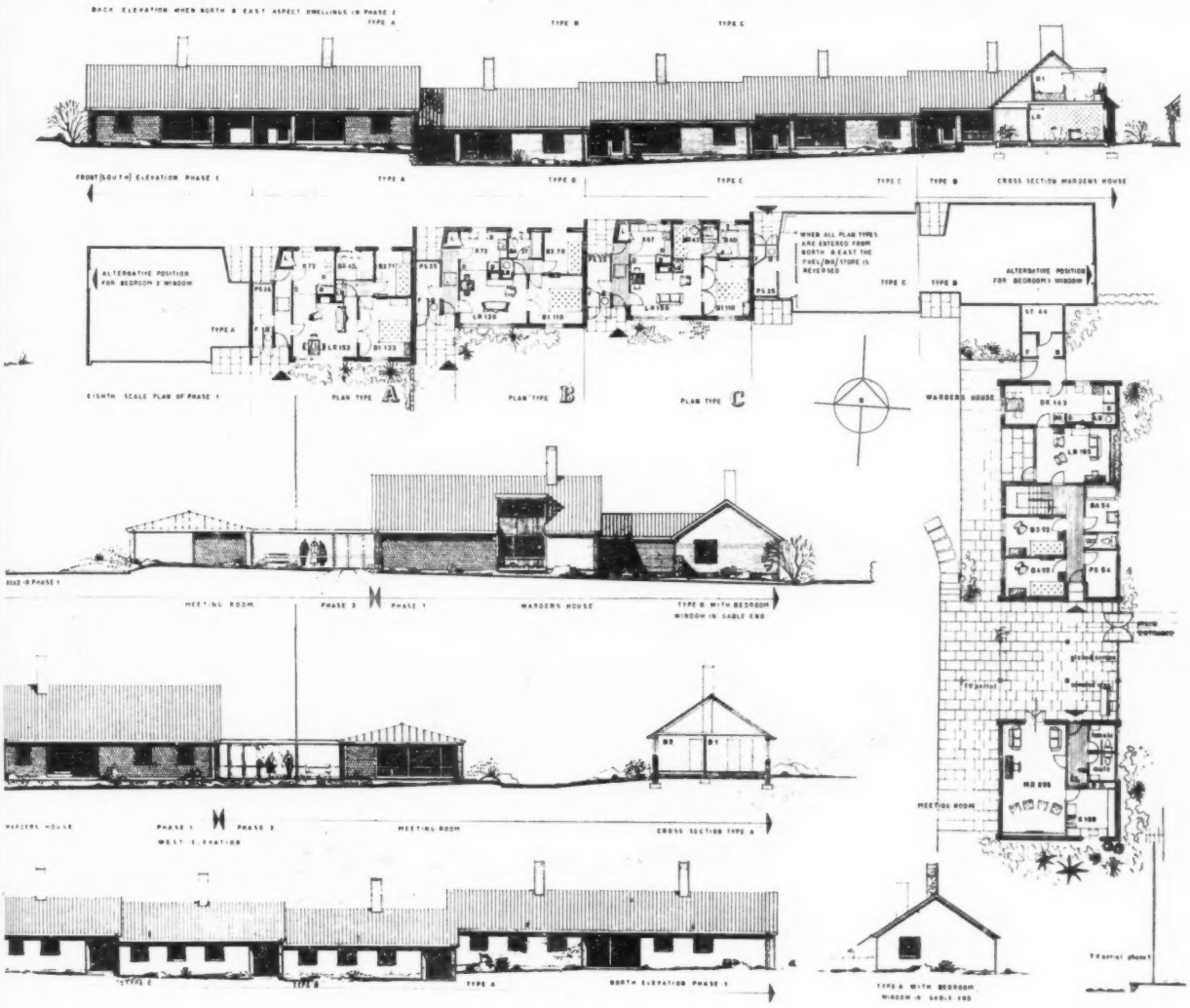
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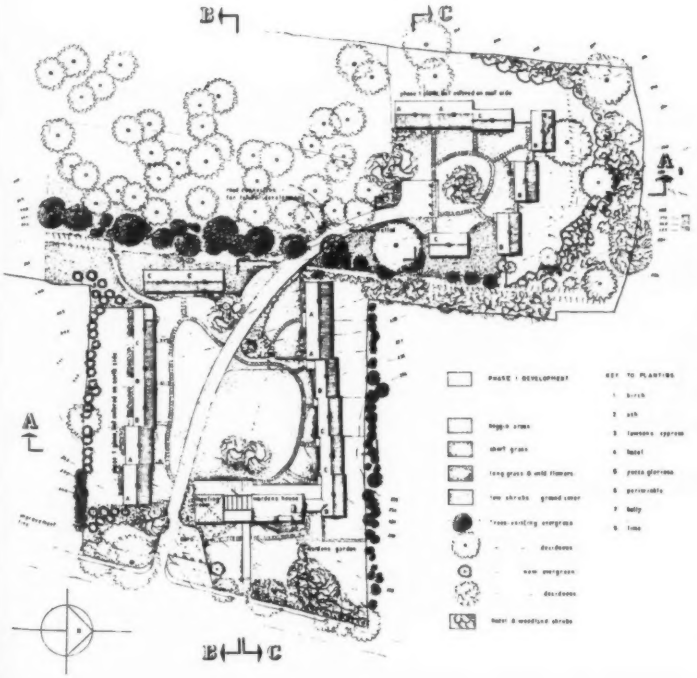
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AGENTS THROUGHOUT THE WORLD

MEMBER OF THE METAL WINDOW ASSOCIATION

ABS COMPETITION FOR OLD PEOPLE'S HOMES





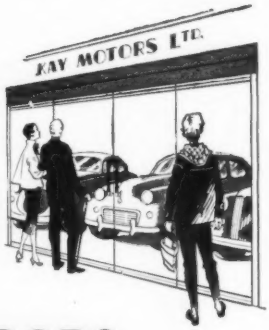
This is the design which won first prize of £100 for Clifford Culpin & Partners, of London, in the competition for twenty old people's homes sponsored by the Architects' Benevolent Society. The assessors, H. S. Goodhart-Rendel, Arthur W. Kenyon and G. Grenfell Baines, gave second place (tied) to Robert Davison and Andrew Artur, of London, and Douglas Lanham and Eric Barber, of Uxbridge, each of whom receives £37 10s. Their designs are shown on page 376. Two competitors were commended: Michael Hemmings, of Beckenham, and Miss P. F. S. Cavanagh (Folkestone) in association with S. D. Dray (Ashford).



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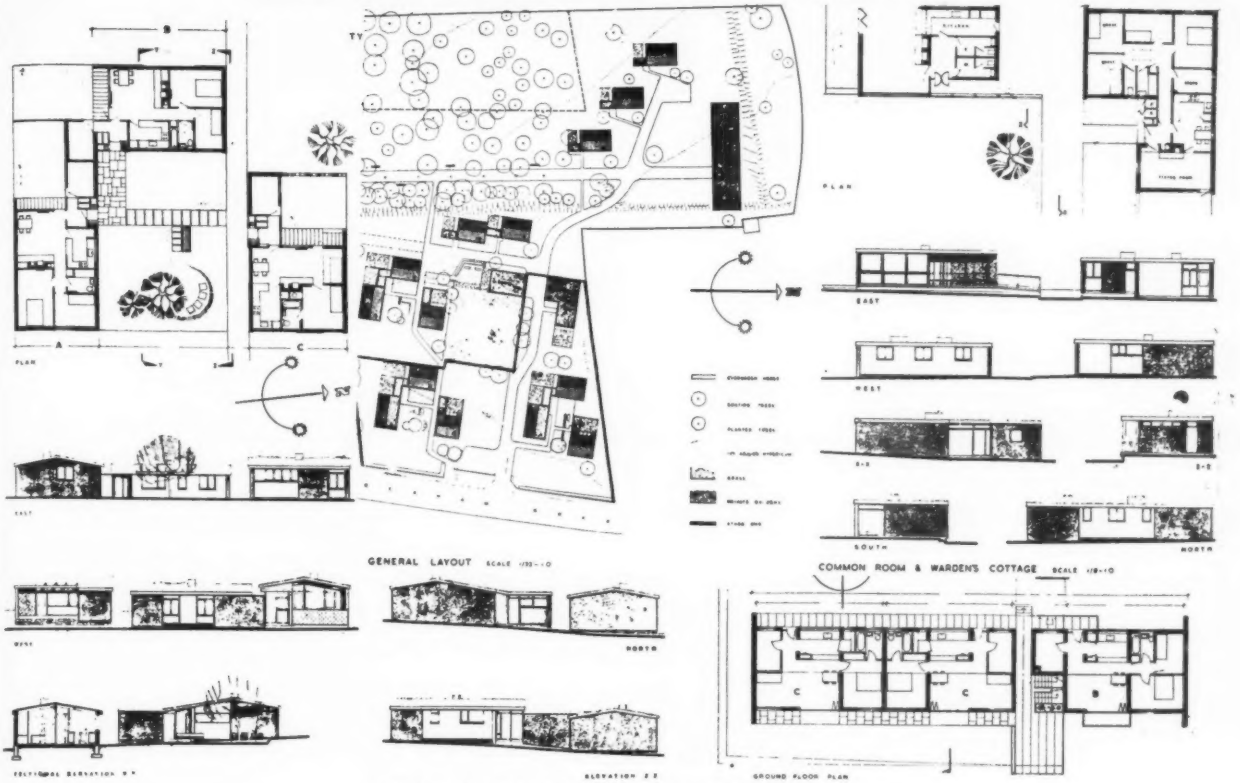
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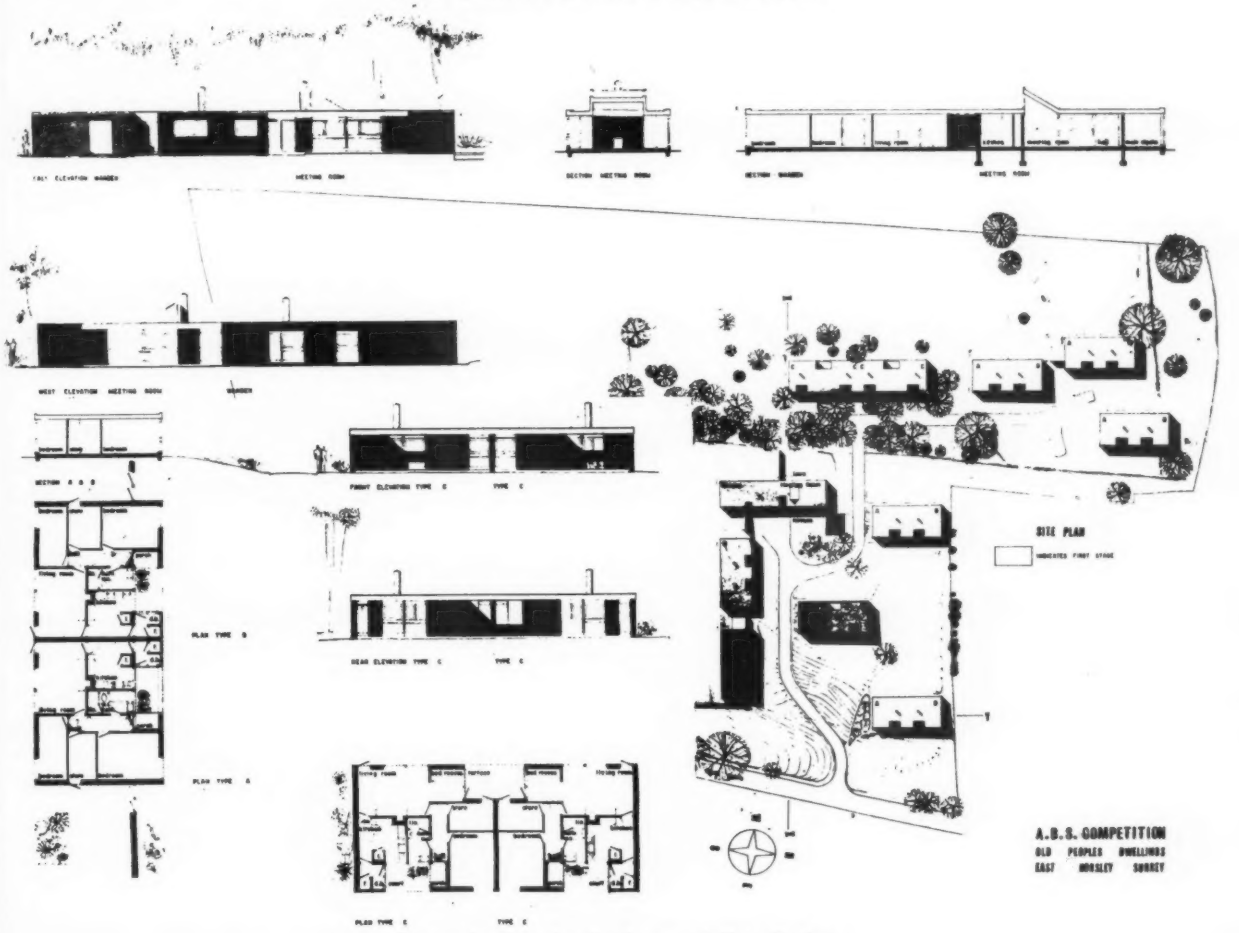
CONSULT THE TECHNICAL SALES AND SERVICE DEPARTMENT AT ST. HELENS, LANCS. TELEPHONE: ST. HELENS 4001; OR SELWYN HOUSE, CLEVELAND ROW, ST. JAMES'S, LONDON, S.W.1. TELEPHONE: WHITEHALL 5372-6. *"ARMOURPLATE" is a registered trade mark of Pilkington Brothers Limited. Supplies are available through the usual trade channels.*

ADA16

ABS COMPETITION DESIGNS *(continued)*

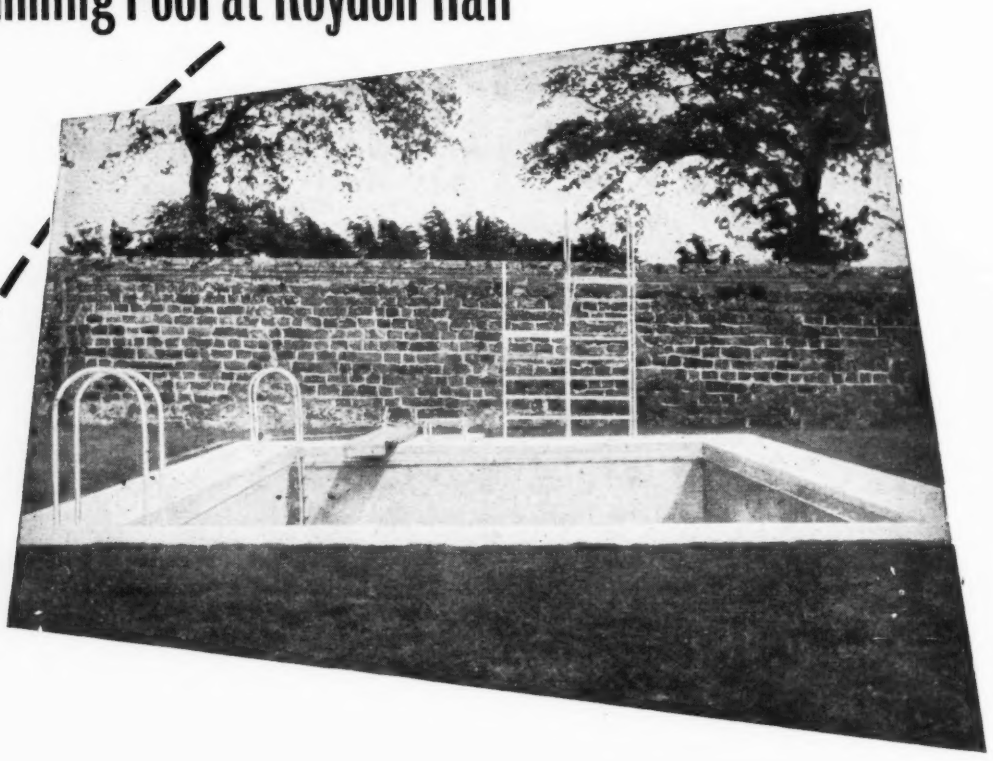


Design by Robert Davison and Andrew Artur



Design by Douglas Lanham and Eric Barber

Swimming Pool at Roydon Hall



In the lovely grounds at Roydon Hall, Norfolk, a swimming pool has been constructed for John Alley, Esq., J.P. The pool is 34 ft. long and 20 ft. wide, one end being 3 ft. 6 ins. deep increasing in the middle to 8 ft. and decreasing at the other end to 6 ft.

'PUDLO' Brand Waterproofer was specified to render the walls and floor waterproof, the bath having been built of brickwork with an ordinary non-waterproofed concrete floor 15 ins. thick composed of 4. 2. 1.

The Waterproofing was effected by means of an internal lining of waterproofed cement and sand composed as follows:— 2 parts of coarse washed sand, 1 part of Portland cement, 5 lbs. 'PUDLO' Brand Powder, to each 100 lbs. of cement.

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technical section

THE INDUSTRY

This week Brian Grant reports on a new grade of polythene, a leaflet on putties and mastics, plastic ducting, a new convector, asbestos-based slates and a new floor surfacing resin.

FILE THIS WEEK
From here on items can be readily extracted for filing

DEVELOPMENTS IN POLYTHENE

Imperial Chemical Industries, who produce polythene under the trade name of Alkathene, are now producing small quantities of a higher density grade known as Alkathene H.D. During the year only about 100 tons will be produced, largely for experimental use. The material is slightly heavier and considerably stiffer than standard Alkathene, and it also withstands a much higher temperature without softening. It seems possible, therefore, that the new grade may be suitable for hot-water services, while for cable coverings the sheath will be tougher and the cables can be run at a higher temperature: the insulation can also be thinner. Readers will remember that the Metropolitan Water Board recently agreed to the use of polythene pipe, to British Standard, for cold-water services, but not for hot, or for underground supply pipes—the latter prohibition because of the slight danger that leakage from gas mains could penetrate the pipe. The new H.D. Alkathene has less than one quarter the permeability to vapours of standard polythene, so it seems that underground supply pipes may be allowed before very long.

PUTTIES AND MASTICS

A recent leaflet sets out the advantages of Nine Elms Fenestrene sealing mastic and M.C.P. metal casement putty. The mastic has been produced for bedding the many different types of in-filling panel now used in curtain wall structures, and has been designed to allow for the considerable difference in thermal expansion between filler panels and framework. It is recommended that the panels should be puttied both front and back: painting can be carried out after 48 hours, but is not necessary, as the mastic is a pale grey colour which matches galvanised or aluminium frames.

The M.C.P. putty has been designed for metal casements which do not, of course, absorb the oil of linseed putties like wooden windows. Like the mastic, the putty never sets hard, and can be painted after 48 hours. (*T. & W. Farmiloe Ltd., Rochester Row, Westminster, London, S.W.*1.)

PLASTIC DUCTING

Standardised ducting in various types of plastic is already being produced by one or two firms, and is often the only answer in some types of factory where the process involves corrosive gases, the alternative being expensive corrosion-resistant paints which need frequent renewal.

A full range of polythene or p.v.c. ducting, known as Polynert, is now being produced in standard 3 ft. lengths with the cross-sectional dimensions varying from 4 in. to 30 in. by 2 in. increments. The various sections have flanged joints and are produced with a full range of elbows, tees and other fittings. Flanges are ¼ in. thick; the sheet for the ducting is $\frac{3}{16}$ in. (*Rediweld Ltd., 15-17, Crompton Way, Crawley, Sussex.*)

NEW CONVECTOR FIRE

The photograph on the right shows the new Redfyre convector, which has been designed to burn coke or any other type of smokeless fuel, while smoke is kept to a minimum when burning bituminous coal.

The fire is made up in two main parts, the firebox proper and an expanded metal screen which covers the fireplace opening and also carries a protective wire guard. The firebox will fit any normal opening from 14 to 20 in. wide and the convector chamber is formed by the firebox and the existing firebrick lining. The flue has an adjustable throat, and is sealed into the chimney. The price of the unit is £11 17s. 6d. and it is suitable for heating rooms up to 2,000 cu. ft. (*Newton Chambers & Co., Ltd., Thorncliffe, Nr. Sheffield.*)

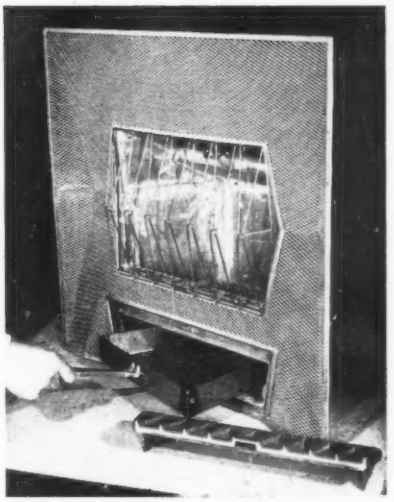
ASBESTOS-BASED SLATES

Ruberoid are now producing asbestos-based square-butt flexible slates for use where a high degree of fire resistance is required. The new slate differs from the normal Ruberoid slate in that it has a base of bitumen-impregnated asbestos fibres instead of a felt-fibre base; appearance is otherwise identical. The slates are supplied in strips of two and are claimed to be fully weather-resisting. They should be laid on 1-in. close boarding or ¼-in. t. & g., and the roof should have a minimum pitch of 30 degrees. A layer of grey mineral granules is applied under pressure to the surface of the slates during manufacture, to give colour and a rough texture and also to increase reflectivity.

Price is £5 10s. per 100 sq. ft. of roof surface compared with 76s. 9d. for normal Ruberoid slates. (*The Ruberoid Co. Ltd., Commonwealth House, 1-19, New Oxford Street, W.C.*1.

SEALERS FOR TIMBER FLOORS

A new floor surfacing resin known as Ardux 485 has recently been introduced by Aero Research. The resin is a white water-soluble powder and is used with a hardener which can be supplied either as a powder or as a liquid: once the two materials have been mixed they should be used within an hour, but separately they have a considerable storage life. The mixture is applied at the rate of about 1½ lb. per 100 sq. ft., two or three coats being necessary according to the type of timber and the smoothness of the floor, and gives a hard surface which is resistant to heat, damp and most chemicals, and has a highly polished appearance which can be maintained with only a damp cloth. The resin itself is quite clear and the wood is seen in its natural colour and grain. New hardwood floors are the most suitable, but pine and other softwoods give good results: old floors can be treated as long as polishes or other surface treatments are first sanded off. (*Aero Research Ltd., Duxford, Cambridge.*)



The new Redfyre convector manufactured by Newton Chambers & Co., Ltd.

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technical section

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A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.

8.50 surveying: specification
QUANTITY SURVEYING

More Advanced Quantity Surveying. A. J. Willis, F.R.I.C.S. (Crosby Lockwood. 35s.)
A new edition of this well-known and excellent textbook will be welcomed by all students of Quantity Surveying. Mr. Willis has included a new chapter on the measurement of pre-stressed concrete and explained points which have caused difficulty in previous editions. The layout of the book remains unchanged, loose drawings are provided and the author explains the principles of measurement involved in each example and prepares a set of dimensions giving full explanations of the procedure. The author covers all sections of the Standard Method of Measurement, with the exception of the electrical and heating services and one hopes that this omission will be made good in a later edition.
For the convenience of those who have the earlier editions, the drawing and chapter of pre-stressed concrete is being published separately. It is, however, a sad reflection on the cost of textbooks that this slim document must be priced at 6s.
In his preface Mr. Willis disarms criticism of the out-dated type of construction used in some of his examples by pointing out that the basic principles of measurement remain unchanged. Although this is true, surely it would be more valuable for the student to learn these principles from the type of construction he will meet in practice.
There is another point to be considered; contemporary architects often design their buildings round the constructional method which they intend to be used, *i.e.*, repetition planning to allow multiple use of formwork, complete prefabricated timber floors, etc. The Standard Method of Measurement calls for the measurement of all materials to be "net as fixed in its place," but the Quantity Surveyor's job is to indicate to the estimator all the factors affecting the cost and a way must be found to represent these more intangible ideas in the bill. The new section on pre-stressed concrete is a departure from this principle, the work being measured in the operational sequences and not as a complete composite item. If the author could include in his book examples of this newer type of design where the precise method of construction is important to the cost it would be a great help to all Quantity Surveyors.
A knowledge of the work of the Quantity Surveyor, the type of drawings and the information and specification he needs to prepare the Bill of Quantities, should be part of the Architect's training if both professions are to work efficiently and this book is recommended to all concerned in building as a model textbook on this subject.

10.143 design: building types
FRUIT STORES

Refrigerated Stores for Fruit. Ministry of Agriculture, Fisheries & Food and DSIR Bulletin No. 159. (HMSO. 2s.)
The use of refrigerated stores (not to be confused with "deep freeze") has increased threefold since the war. Apples and pears, which when stored in barns usually go bad round about Christmas, can be kept until February or March if maintained at low temperatures (*i.e.* 35°–45° F) in an ordinary cold store, or until April or May if kept at the same temperatures in a refrigerated gas store. This Bulletin, like others in the series, is aimed more at the layman than the architect but gives full design data. A ton of fruit occupies 100 cu. ft. Optimum size for a large store is 4,000 cu. ft. holding 40 tons of fruit. Most commonly used insulation is 4 in. slab cork giving an overall "K" value of 0·08 Btu/sq. ft./hr./deg. F. Gas stores require additional gas-proofing which is commonly provided by bituminous plasters.

18.177 construction: theory
STRUCTURAL DESIGN

Analysis of Structures. M. Smolira. (Concrete Publications Ltd.) 1955. 18s.
Text book on elastic design of beams and frames of interest to Architects and Engineers.
The average text book on structures will indicate as many as half a dozen methods of obtaining the answer to any beam or frame structure. The more recent of these are slope deflection, moment distribution and column analogy (this latter being an extremely useful tool but restricted to closed frames). There have been variations on both the first and second methods from time to time which the promoters have claimed to be time-saving but there is a limit to the number of methods which one can thoroughly digest and apply. The method described in this new book is a variation on slope deflection and it is claimed that the setting out of the equations can be carried out more quickly and that there is no need for a sign convention. The moments and forces are assumed to act in the directions required to convert the members, first assumed to be statically determinate, back into a continuous frame. It is particularly necessary to visualize the deformed shape of the structure and this should be drawn with some exaggeration to help set out properly the equations of equilibrium. This is a good point in the method, as generally speaking, very little attention is given to the appearance of the structure and this often can show up mistakes in a more mechanical method. Unlike the moment distribution method, sway is taken into account in the equations and no separate calculation is required. In moment distribution some tedious work is involved in solving simultaneous equations when sway is involved: in the new method as in slope deflection solving these equations is always necessary.
The generality of the method is shown by some sixty examples including an interesting chapter on Vierendeel girders. Examples are also given of beams intersecting on a rectangular or diagonal grid.

INFORMATION CENTRE
INDEX FOR 1955

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1955, *is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor,* THE ARCHITECTS' JOURNAL, *not later than May* 14, 1956. *This form will not be acknowledged.*

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"Modern Boardrooms—Modern Style"

Dignity combines with originality of design in the boardroom of John Laing and Son Limited, recently furnished by Heal's Contracts Ltd., in collaboration with the architects Messrs. Adams, Holden and Pearson F/FRIBA.

The panelling and table-top are in Queensland maple; the table-frame and blue hide-upholstered chairs are of dark mahogany; and the door is covered with yellow leather. Rust carpeting, yellow curtains, and a light-fitting, specially designed in yellow and white, complete the setting.

If you would like to see more of Heal's recent work for boardrooms and offices, our illustrated booklet *Furniture for Special Needs* is available to architects.

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technical section

10 DESIGN: BUILDING TYPES

Hertfordshire schools development, 5

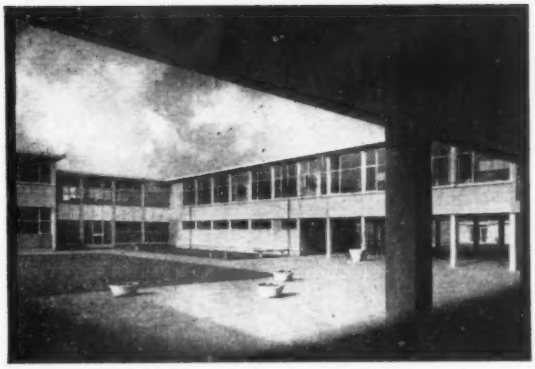
In the last article which appeared in this series* (December 22, 1955), W. D. Lacey and H. T. Swain completed their account of the development work carried out by the Herts County Architect's Department (County Architect, C. H. Aslin, PRIBA) on Primary Schools up to and including the 1950 programme. From 1949 the interest shifts from Primary Schools, which are single-storey, to Secondary Schools, which are multi-storey. This week a new team of architect-authors, K. C. Twist, J. T. Redpath and K. C. Evans, begin their description of the secondary schools development by recording the decisions taken in respect of the first flight of secondary schools (1949/50) programme and the criticisms to which they gave rise.

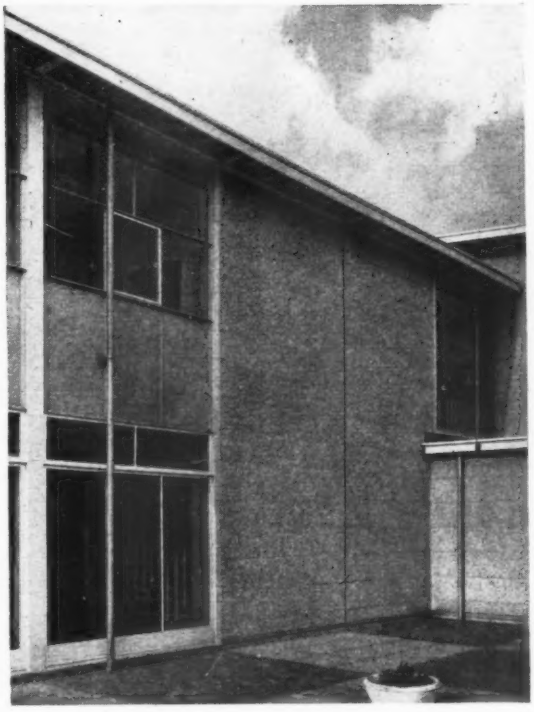
*Other articles in the series were published on May 12 & 26, 1955 and August 11, 1955.

The County Council were given approval to their first major secondary schools programme in 1949/50. This consisted of four secondary modern schools and two grammar schools (one of which was subsequently moved into the next year's programme). Previous experience in building post-war secondary schools in the county was confined to the Barclay School, Stevenage (Yorke, Rosenberg and Mardall) and the Hampden School at Oxhey (County Architect).

These two schools, which were not yet completed, were using a two-storey empirical version of the Hills "Presweld" frame with r.s.j. stanchions.

The County Architect had already begun design work on a 3-ft. 4-in. modular system of construction using a third secondary school (the Clarendon School, Watford) as a prototype and it was hoped that this would lead to solutions which could be used on future secondary school work. At this time, however, it was obvious that the many new problems involved would take con-





Top, Fig. 1: general view of St. Albans Girls Grammar School, which was one of the first schools in the programme, showing cloister circulation. For economy's sake the composite window system evolved for this programme was used only on essential elevations. Here, as can be seen, horizontal cladding units predominate. Above, Fig. 2: detail of St. Albans Girls Grammar School showing low to high block junctions at internal corners. Note expansion joint in cladding which occurs on structural grid line.

technical section

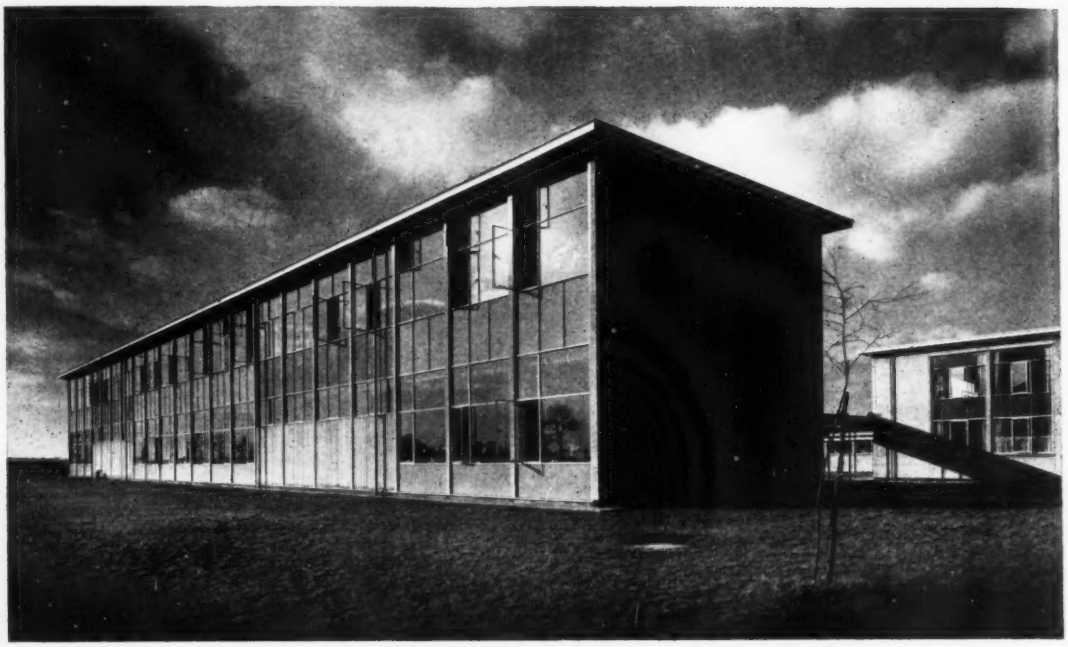


Fig. 3. The south elevation of the quiet teaching block of the Howard School, a 3-form entry, secondary modern mixed, showing the original intention of the programme, namely to use a composite window system over the whole facade. Infilling panels are double-dished steel panels (painted) insulated with glass silk, also vertical weather-boarding.





Left, Fig. 4: detail of troughed eaves of the Howard School and composite window construction. In this school, the last of the programme, certain gable walls were built in facing brickwork, in the absence of an alternative cladding, to assist in articulation of the building. Right, Fig. 5: corridor in the main administration block of the Howard School, looking towards the entrance hall and assembly hall. The lattice beams are cased in fibrous plaster (2-storey block) to provide necessary fire protection. The stanchion casings and window cornice are also in fibrous plaster. The ceiling is in 1-in. fine woodwool tile screwed to battens.

siderable time to solve and it was therefore decided to investigate the use of the 8-ft. 3-in. system for this programme. Several important factors were by then apparent:

(*a*) The building developments in the county, in particular the new towns and LCC estates were going ahead very fast and large numbers of secondary schools would be required. This indicated the continuing need for building the schools as quickly as possible.

(*b*) No time was available for prototype work, but it was considered that with the previous experience of work on primary schools (several architects had already worked on these and were in fact still job architects for schools under construction) there was enough knowledge to extend the basic system to suit the larger projects.

(*c*) The floor areas were such that single-storey schools would have given too much spread on site. A multi-storey frame was required.

(*d*) Some features and finishes would require to be of a more robust character to house the older children. The cost limit per place was £290, which appeared to allow an area per place of about 90 square feet. (This was reduced to £240 during the latter part of the programme and for larger projects financially spread over two years, an average figure was agreed with the MOE.)

(*e*) Owing to the size of the projects and in view of the fact that future primary school programmes were of considerable size, it was considered that the supply field for components should be widened if hold-ups were to be avoided.

A system of single-, double- and three-storey buildings was proposed, but the client would not, at that time, consider more than two-storey schools.

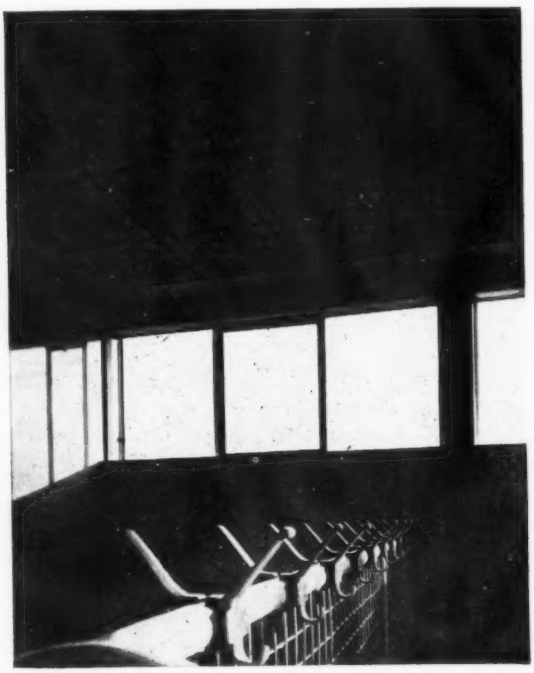
Messrs. Hills (West Bromwich) Ltd., were already working on an 8-ft. 3-in. grid two-storey frame to meet the requirements of other authorities with restricted sites.

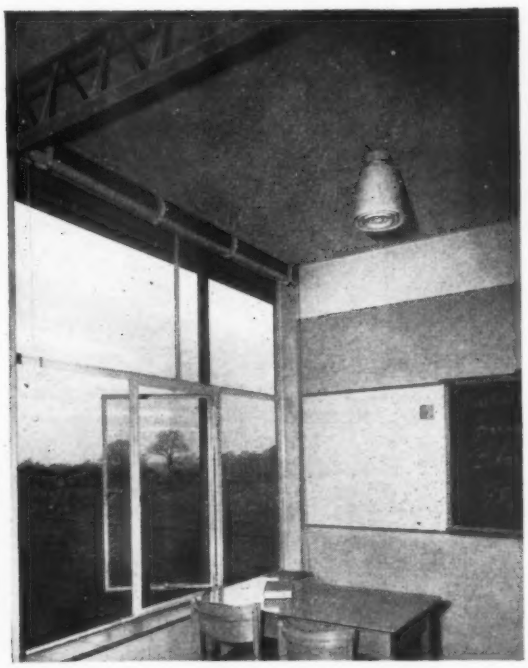
Preliminary storey heights were agreed and a cladding, window and flooring scheme drafted sufficiently to obtain competitive estimates.

The Crittall Manufacturing Co., Ltd., was engaged for windows and pressed metal trim; Messrs. Concrete Ltd., for floors and roof blocks, and Messrs. Dow-Mac Ltd., for wall blocks. Once these firms were nominated it was possible to proceed with further development work and final standard component drawings were commenced.

It was agreed that the Weatherfoil system of heating had proved so satisfactory on previous schools that a direct contract was let for this programme.

Messrs. Hills had previously been engaged on a direct contract basis to supply and erect the steel frames.



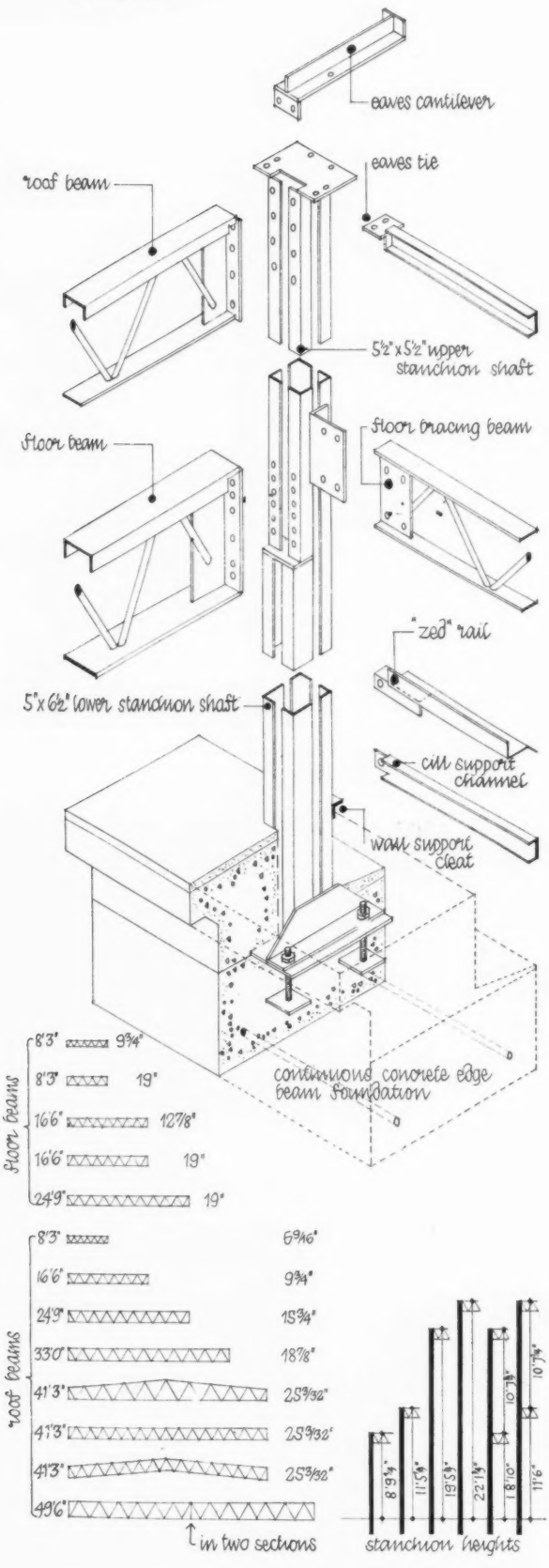


Left, Fig. 6: *the Howard School; detail of suspended woodwool tile ceiling, showing the use of fibrous plaster margin cornice to overcome the need for cutting. The ceiling pattern is offset from the structural grid. Right, Fig.* 7: *detail of junction of partition, ceiling and window in the Howard School. The ceiling is of perforated plasterboard with glass fibre backing. Note fibrous plaster casing to Presweld beam over partition.*

technical section

1950/51: SECONDARY SCHOOLS

FRAME



DEVELOPMENT WORK: It was agreed that the two storey frame proposed by Hills was basically suitable. It was a descendant of the single storey frame used in the 1948-1949 programme, and details of the roof construction and stanchion section above first floor level were familiar. Below first floor level the stanchion section increased to 5½ in. × 6½ in. in all except corner and gable conditions and because of considerable over-turning moments the shaft was taken down to a base with four holding down bolts at 16 in. below finished floor level. The stanchion was holed for roof and floor beam connections and at 8-in. centres throughout its height for window head and sill fixing. Temporary bracing inserted into the frame in certain positions during erection, was removed at the end of floor, roof and wall cladding operations when the structure was regarded as stable. Special trimming beams were required for stair and assembly hall balconies. The following modifications were made.

(*a*) Since the buildings would be predominantly two storey, single storey stanchions were also taken down to 16 in. below finished floor level and edge beam foundations of suitable width for mechanical excavation were adopted and overturning moments taken by reinforcing the site slab for one 8-ft. 3-in. bay inside the building.

(*b*) The range of three floor beams each of different depth for different span was increased to include beams of the same depth for all spans. These provided simple support for ceilings and avoided changes in level and patent systems of suspension.

(*c*) The top of the floor bracing beam which ran between elevational stanchions was lowered in agreement with the structural engineer until it was 8¾ in. above the top flange of the floor beam.

(*d*) Base locating cleats were provided at the base of all external stanchions to assist in the correct alignment of the lowest course of wall cladding blocks.

CRITICISM: *Drawing Office.* The steel frame was generally satisfactory, but modifications were necessary in view of the following comments.

(*a*) The floor bracing beam in its revised positions was still a nuisance. With its top flange at 8¾ in. above the top of the floor beam it was necessary to build long lengths of internal wall lining within the inner stanchion face, resulting in plaster cracks and loss of floor space.

(*b*) The lead cavity flashing between the window head and bracing beam might be avoided if the zed rail was redesigned to drain condensation.

(*c*) If a clamp system of window fixing were devised it would be possible to omit a lot of stanchion drilling.

(*d*) If eaves and gable ties were hidden within the roof construction, expensive and æsthetically heavy pressed metal surrounds to windows could be dispensed with.

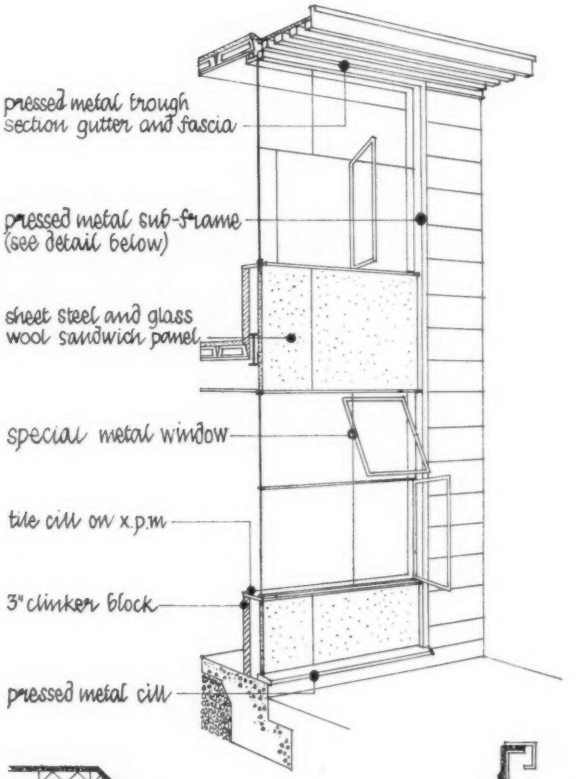
MANUFACTURE AND ERECTION: The manufacture of steel frame components proceeded satisfactorily and erection processes, although difficult at the beginning, steadily improved as the programme progressed.

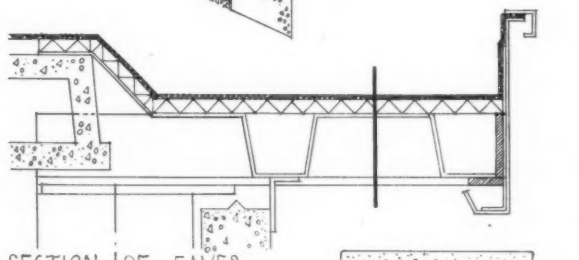
Manufacturing complications, resulting from the bolting of large members of elevational steelwork components to the frame and the multiplicity of stanchion drillings necessary to receive them, suggested that some considerable rationalization of the window system was necessary. General contractors did not take advantage of mechanical excavation for edge beam foundations.

technical section

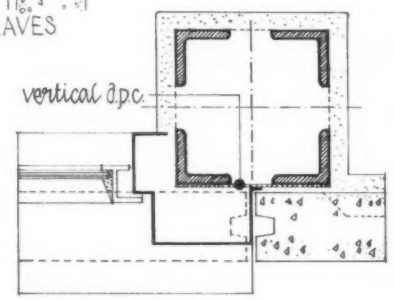
1950/51: SECONDARY SCHOOLS

WALLS AND WINDOWS

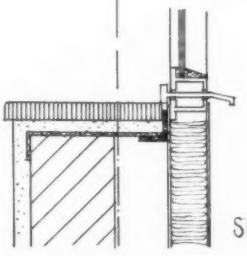




SECTION OF EAVES



PLAN of pressed metal window surround



SECTION OF CILL

DEVELOPMENT WORK: Although the walling of the 1948/49 primary schools programme was aesthetically pleasing it had been criticized on the ground that the range of cladding rails and wall blocks necessary to standardize the system had become excessive. Furthermore, since windows narrower than 8 ft. 3 in. wide, which it allowed, were rarely used, it was decided to revert to a system of horizontal cladding, akin to that used in early development. Similarly the window angle surround and concrete stanchion cladding block were replaced by pressed metal trim. The window range was developed in conjunction with the Crittall Manufacturing Co. Ltd., to allow either the glazing of a "hole in the wall" or the build-up of a window-panel "composite" to fill an 8-ft. 3-in. wide bay from site slab to eaves of either single or two storey height. The panels of this composite wall for use either between or below windows consisted of two steel sheet skins filled between with glass silk packing.

To provide a contrast for the square slickness of the pressed metal trim, and breast panels a "shaggy" faced cladding block was developed in conjunction with Messrs. Dow-Mac Products Ltd., which had an applied face of large pea shingle aggregate up to ½ in., exposed after the initial set by wire brushing and with a yellow colouring mixed into the backing.

The criticism of the wide eaves of the 1948/49 primary schools programme was that both aesthetically and structurally they were too heavy. It was felt that it was wrong to load necessarily heavy cantilevers with a concrete eaves block, so a pressed metal trough sectioned gutter, of three different projections for different heights of building and with a pressed metal fascia was adopted.

CRITICISM: *Drawing Office.* The decision to revert to the use of horizontal cladding blocks had been wise. The number of standard components was reasonable but there was unhappiness about the appearance of the blocks. Some were more yellow than others and despite the fact that they eventually weathered to a uniformity it was agreed that alternatives were necessary and that at least two contrasting colours should be considered in future.

The criticism of the window range was that it was too limited. A small range of standard windows might be all right for a primary school, but a secondary school needed variety and the range should be widened to include more alternatives. The cost of steel rose early in the programme and for this reason many window-panel "composites" were hastily replaced by windows and cladding blocks.

The three projections and the multiplicity of internal and external corner conditions produced a range of eaves components of fantastic proportions and for this reason and for reason of aesthetics and cost it was agreed that the whole problem should be reconsidered.

MANUFACTURE AND ERECTION: The erection of cladding blocks was generally satisfactory. A small number were broken in transit and handling, but by far the greatest number of rejections were because of "face bowing." Some of the blocks delivered to the last schools in the programme were discoloured, and this fault was traced to their long storage in an ash-surfaced compound where the dust-laden atmosphere had deposited a film of sulphur on exposed surfaces.

The manufacturers were able to remedy this fault by the application of an acid treatment and by wire-brushing the slabs after erection. There were long delays in the delivery of both pressed metal eaves and the remaining breast panels, caused by a national steel shortage and this was a further reason for the drastic reconsideration of these details.



The facts about the Radiation YORKSEAL cooker and water heater

DESIGN

The Yorkseal is a highly efficient insulated cooker and water heater. A feature worth noting — particularly important when meals are taken in the kitchen — is the fire which can be fully opened, heating a room up to 1,200 cu. ft. The big roasting oven — on left or right side — is air-flow-heated and without flue passages. A simple-to-read oven thermometer is fitted as standard. The lower oven, designed for slow-cooking and plate-warming, is easy to clean because it is lined — like the main oven — with stain-resisting Lexos porcelain enamel. The hotplate gives graduated heat for boiling and simmering; an additional fast-boiling hotplate is provided by the retractable fire cover.

The overall dimensions (without splashback) are: Height 35¾"; Width 36"; Depth 17⅞".

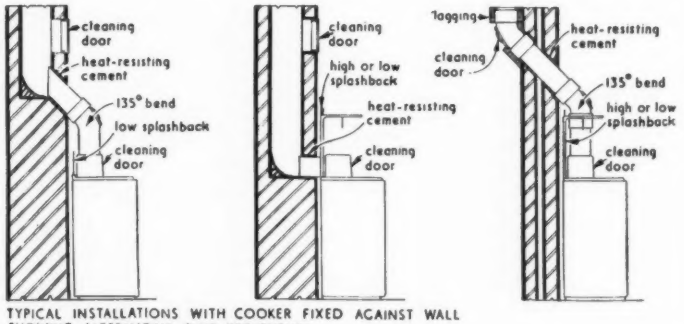
PERFORMANCE

The Yorkseal provides cooking and hot water facilities for a household of 8–9 people and its cheerful open fire heats the average kitchen/living room with ease. Under cooking conditions it will raise 7–9 gallons of water from 50°F. to 140°F. in an hour. The Yorkseal will remain alight untended for 10 hours; the ashpan needs emptying only once a day. The cooker operates on coke and other smokeless fuels, as well as coal, consuming weekly about 1¼ to 1½ cwt.

INSTALLATION

A hot water storage cylinder of not more than 30 gallons capacity is recommended. The height of the chimney should be not less than 15 feet from the base of the appliance. To ensure a good draught when there is no brick flue available the flue pipe should be carried as high as possible before being led outside. The exposed piping should be well lagged and carried above the ridge at the roof.

To specify the Yorkseal is to ensure a modern, easy-to-run home. As a "cooker to live by" it has proved its popularity. Housewives find its appearance very attractive and its reliable performance a constant blessing.



TYPICAL INSTALLATIONS WITH COOKER FIXED AGAINST WALL SHOWING ALTERNATIVE FLUE TREATMENTS

SPECIFY THE YORKSEAL MADE BY

Radiation

PIONEERS OF SMOKE REDUCTION

Product of Radiation Ltd

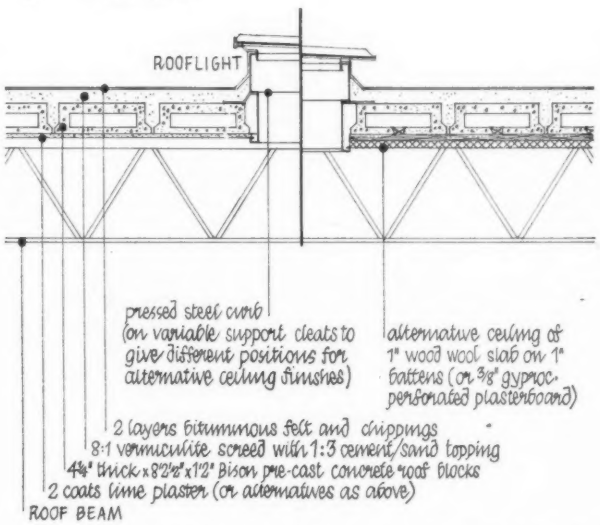
√ Tested to the standards required by the Ministry of Fuel and Power.

Technical Information sheet for the Yorkseal and the Yorkvale (the closed-firebox model) from Radiation Group Sales Limited (Solid Fuel Division), Leeds 12.

technical section

1950/51: SECONDARY SCHOOLS

ROOF



DEVELOPMENT WORK: The basic criteria for the roof differed from those of primary schools only in the need for a wider range of ceiling finishes to suit the different acoustic requirements of special rooms. Previous experience had indicated the desirability of a more positive fixing for ceilings, particularly for the heavier acoustic types. This led to the decision to use blocks with soffits. Messrs. Concrete Ltd., co-operated by reducing their standard block to 4½-in. thickness thus bringing the dead load within the limits of the frame.

The blocks were 1-ft. 2-in. wide, allowing seven per bay, which experience had shown to give a flexible arrangement for the disposition of block width rooflights. These were designed as a pressed metal upstand box dropped in from above with seating cleats to suit the various ceiling conditions.

The soffit allowed a variety of ceilings. These were plaster (used for economy), perforated plaster tiles with acoustic lining, and woodwool tile or planks.

It was decided to use bituminous felt on a vermiculite screed as experience had shown this to be generally satisfactory. Electrical conduits were to run in the screed which had slight falls to the gutters for drainage.

CRITICISM: *Drawing Office.* The roof system was generally satisfactory but the varying conditions of ceilings required the preparation of full ceiling layout drawings at an early stage to ensure suitable positioning of light points and the provision of embedded battens in the soffits of precast blocks.

However, the varying ceiling finishes allowed the provision of suitable acoustic ceilings within an economic average cost.

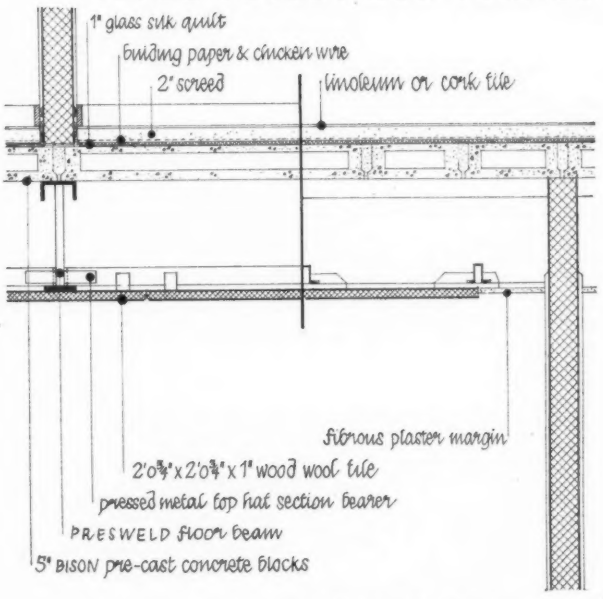
MANUFACTURE AND ERECTION: (*a*) The increased complexity of roof blocks with varying conditions of trimming and soffit conditions required more supervision early on.

(*b*) The varying support cleats for rooflights were an added complication.

(*c*) The problem of fixing the glass silk insulation was eased by specifying resin-bonded quality which was rigid enough to handle easily and could be supplied cut to size.

(*d*) There was some cracking of in-situ plaster particularly on the lines of roof ties.

UPPER FLOORS AND CEILINGS



DEVELOPMENT WORK: Structurally the same concrete block system as roofs was suitable but 5-in. thickness was necessary for floor loading. It was decided to use "floating floors" on glass-silk to avoid noise interference. The structural frame required ½ hr. fire resistance. This was to be provided by suspending ceilings in classrooms and by casing the beams in fibrous plaster in circulation areas. A suspended ceiling consisting of woodwool tiles fixed by cleats to pressed metal "top-hat" sections which spanned between the bottom flanges of the floor beams was developed with Messrs. Uniton Ltd. The tiles were dimensionally related to the grid being 2 ft. 0¼ in. × 2 ft. 0¼ in. Discussion with the BRS led to the development of a classroom ceiling with a 4-ft. strip of perforated absorbent (perforated Gyproc with glass silk insulation) down the sides and the centre panel in plaster. The absorbent area was sufficient for classrooms and was disposed to prevent noise build-up in corners and to absorb external noise. The centre panel acted as a reflecting surface.

CRITICISM: *Drawing Office.* It was soon discovered that the ceiling tiles involved cutting to reduced sizes around room perimeter and that the light points could not be located in the centre of a grid square without drilling the pressed metal supports. This was solved by offsetting the tiles 1 ft. 0⅛ in. in both directions in relation to the grid and widening the fibrous plaster cornice to form a margin. All tiles could thus be standard size and the fibrous plaster was cast in the sub-contractor's shop.

MANUFACTURE AND ERECTION: (*a*) The floating doors though satisfactory proved expensive, needing careful supervision.

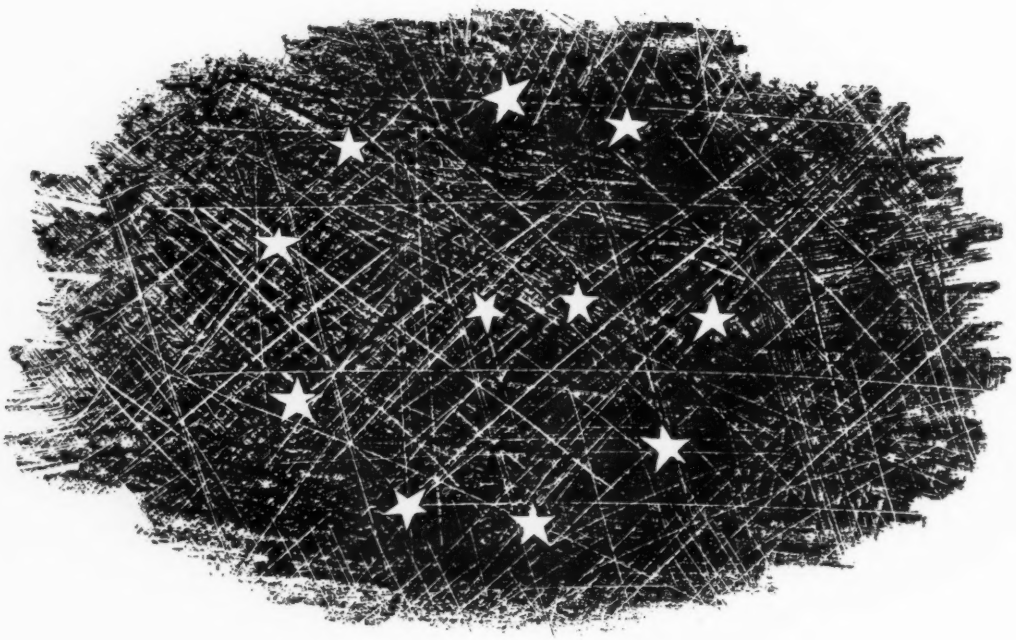
(*b*) Difficulty was experienced in obtaining a good quality of woodwool. Shortages of sheet metal led to delays in completion of ceiling work.

(*c*) A fire test at the Fire Research Station indicated that the ceiling construction did not reach the full ½ hr. fire protection period.

(*d*) Sound passing through tile joints caused interference between teaching rooms.

(*e*) It was necessary to blank off the beams over partitions to avoid this.

(*f*) Too much work was involved in beam casings and cornices in fibrous plaster.



The Great 'G'

"... to coin an astronomical phrase, they're all stars in the Gotham Galaxy."

"*Come back to earth, we were talking about gypsum plasters ...*"

"Still are—Gotham plasters and Thistle plaster in particular ..."

"*I've used Thistle plaster for years—glad I can get it easily again.*"

"The other ... er, stars, are just as good in their various applications—Herculite and Barytite. And, of course, Carlite which is pre-mixed."

"*Another thing about Gotham—their Technical Service really helps. No problem too small for a civil answer and sound advice.*"

Gotham Plasters

THISTLE PLASTER *in the following grades:*
'Thistle' Browning
'Thistle' Haired
'Thistle' Special Haired
'Thistle' Finish
'Thistle' Board Finish

HERCULITE For exceptionally strong and detailed castings.

BARYTITE pre-mixed Barium plaster with gypsum base, to prevent X-ray penetration.

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The Companies of the Gotham Group are:

The Gotham Company Limited, Gotham, Nottingham.
The Carlisle Plaster & Cement Co., Cocklakes, Nr. Carlisle.
Thomas McGhie & Sons, Ltd., Kirkby Thore, Westmorland.

building illustrated

ADMISSION UNIT

at the FAIRMILE HOSPITAL, WALLINGFORD, BERKSHIRE

designed by POWELL and MOYA

assistant architects, ROBERT HENLEY and DEREK STOWE

architect to the Hospital's Board, W. J. JOBSON

quantity surveyors, DAVIS, BELFIELD and EVEREST

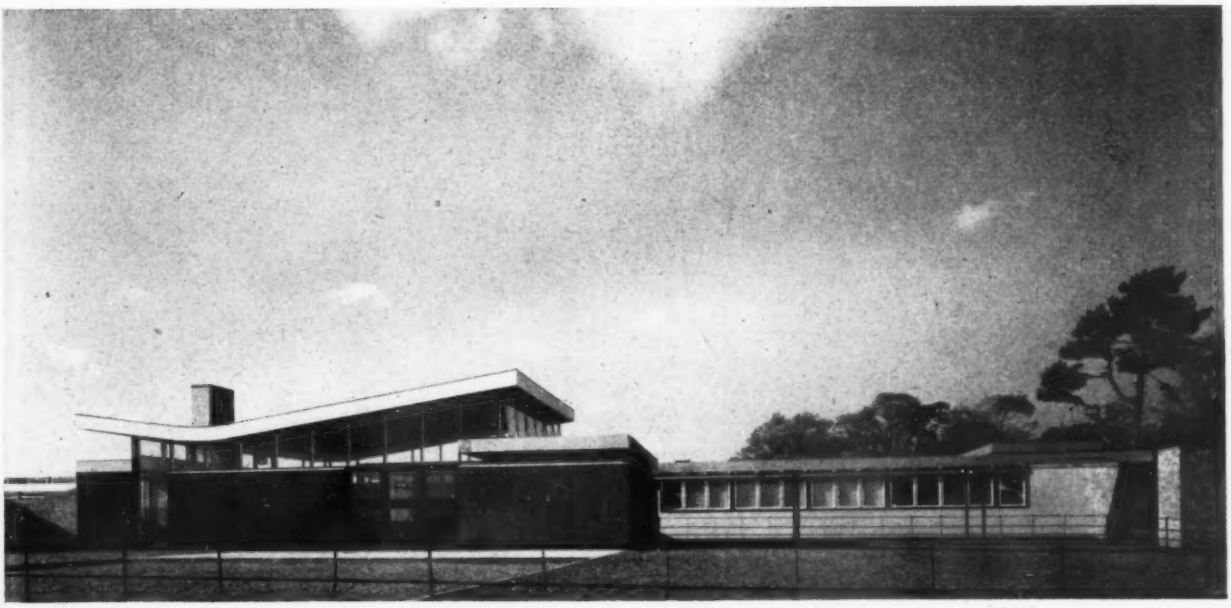
consultants, heating and electrical,

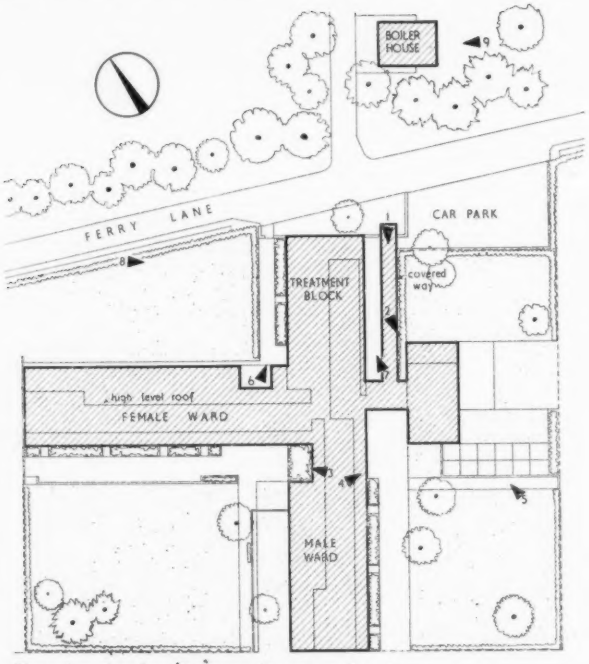
J. ROGER PRESTON and PARTNERS

Admission Unit at Wallingford, Berkshire

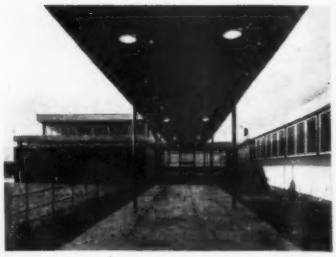
The general atmosphere of this admission unit is reassuring and optimistic, to be in line with the modern conception of much mental illness as a curable condition. The scale of the building is small (many rooms and the corridors have a 7-ft. 6-in. floor to ceiling height) and no windows have bars. The plan, however, is arranged so that ambulant patients are easily supervised and there is no obvious reminder of the occasional need to check violence. It is fortunate that a building of this quality, without an institutional atmosphere, has been erected so early in the post-war mental health building programme; while medical work in this field has advanced greatly, architectural expression has not generally been of a very high order, and this building is therefore of particular significance. All new patients, most of whom are voluntary, are admitted to the unit instead of the main 950-bed hospital, and the majority, after observation and treatment, are discharged or become out-patients. The average stay is about seven weeks. The general contractors were W. E. Chivers and Son; for sub-contractors see page 398.

General view from the west.



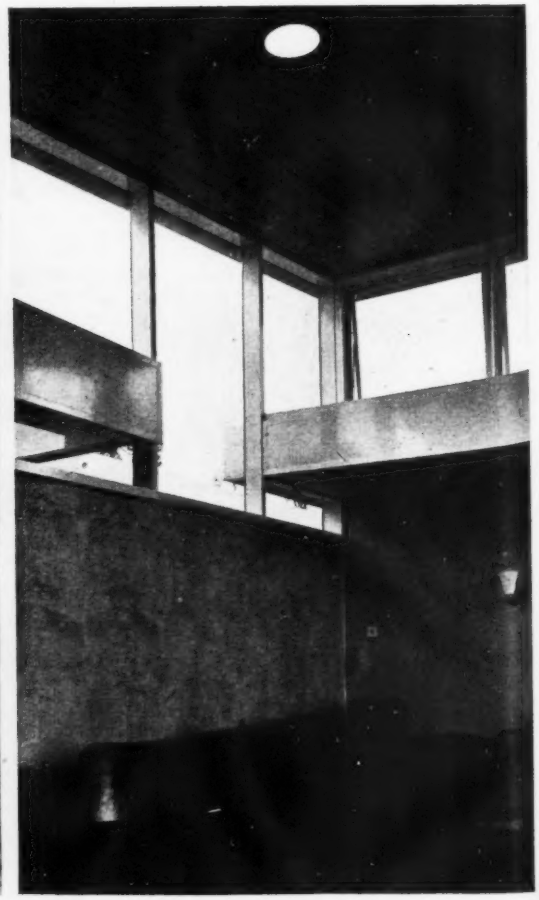


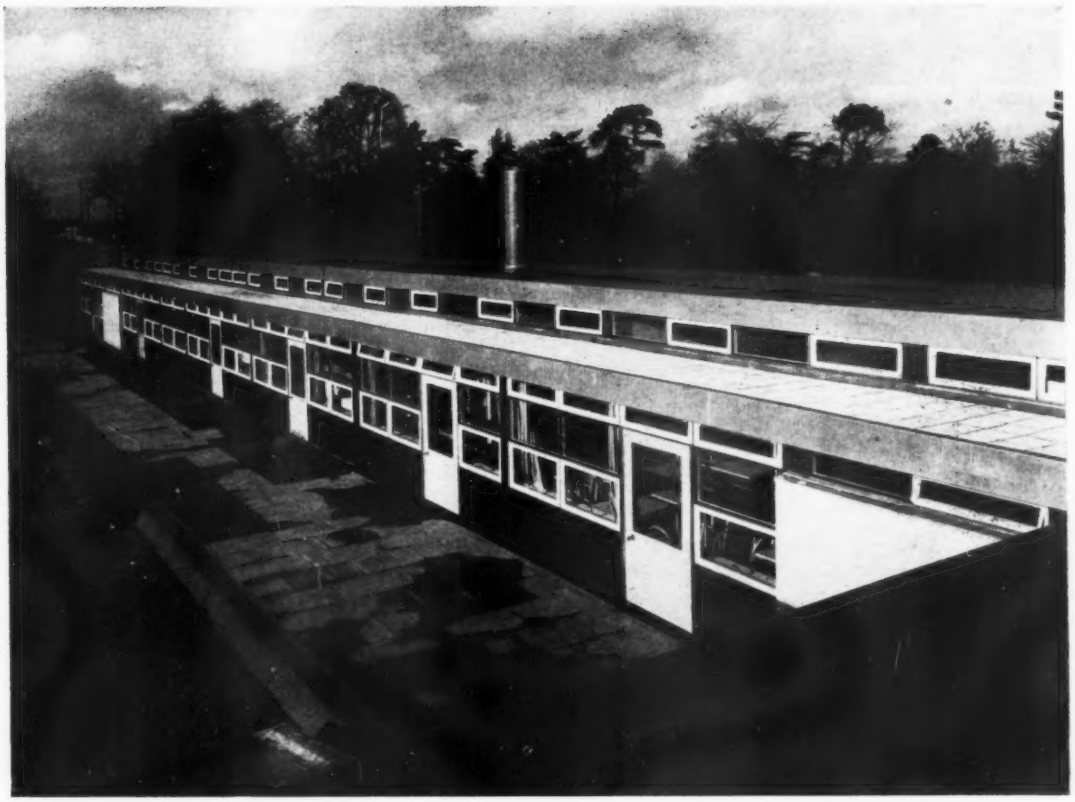
Key plan showing photographic viewpoints.

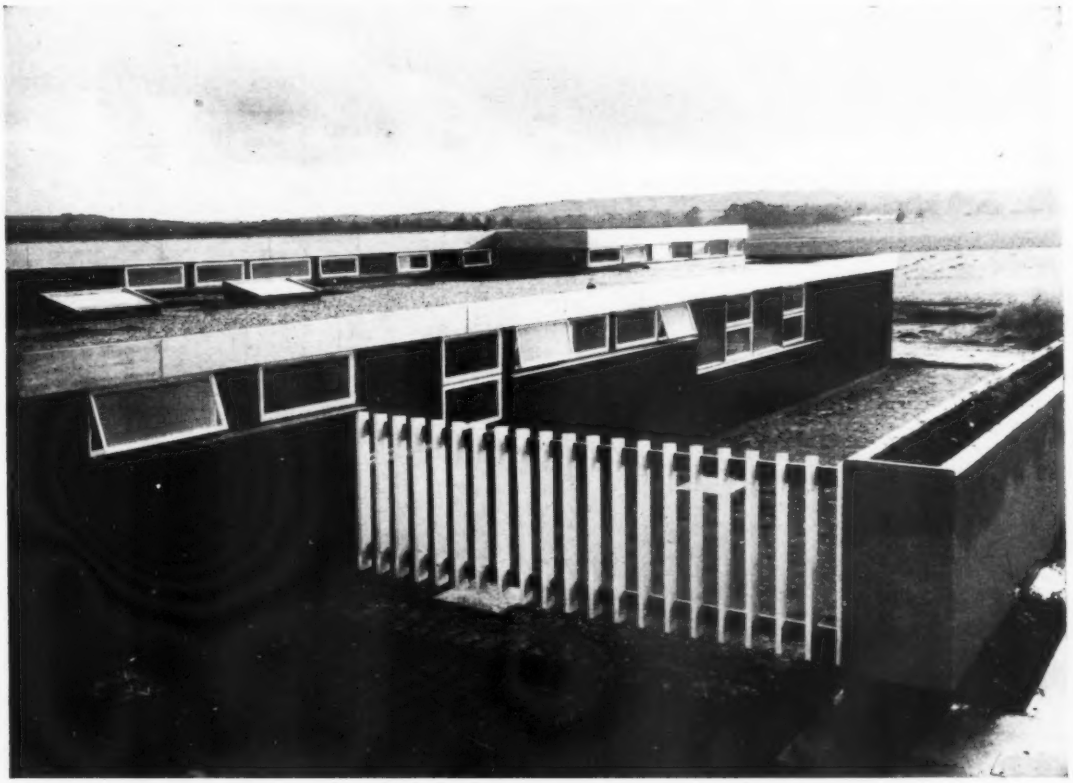


Above right (viewpoint 1): the main entrance, looking down the canopy from the entrance drive. On the right the treatment wing, and on the left the common-room block. The lower roof here covers the occupational therapy room and store. Below: external (viewpoint 2) and internal views of the meeting of roofs at different levels with windows in the common-room block.







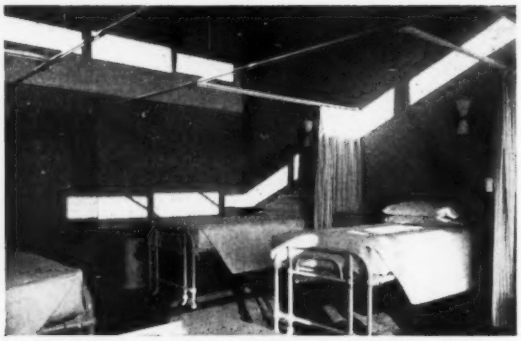


Top (viewpoint 3): the south side of the female ward wing. Above: the west side of the male patients' wing. The band of windows is continuous with a varying sill height, and the cross walls, where cut back, are faced with plywood or slate. (See also view 6).

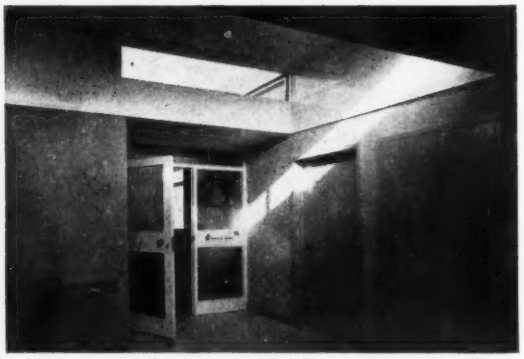
ADMISSION UNIT

at WALLINGFORD, BERKS.

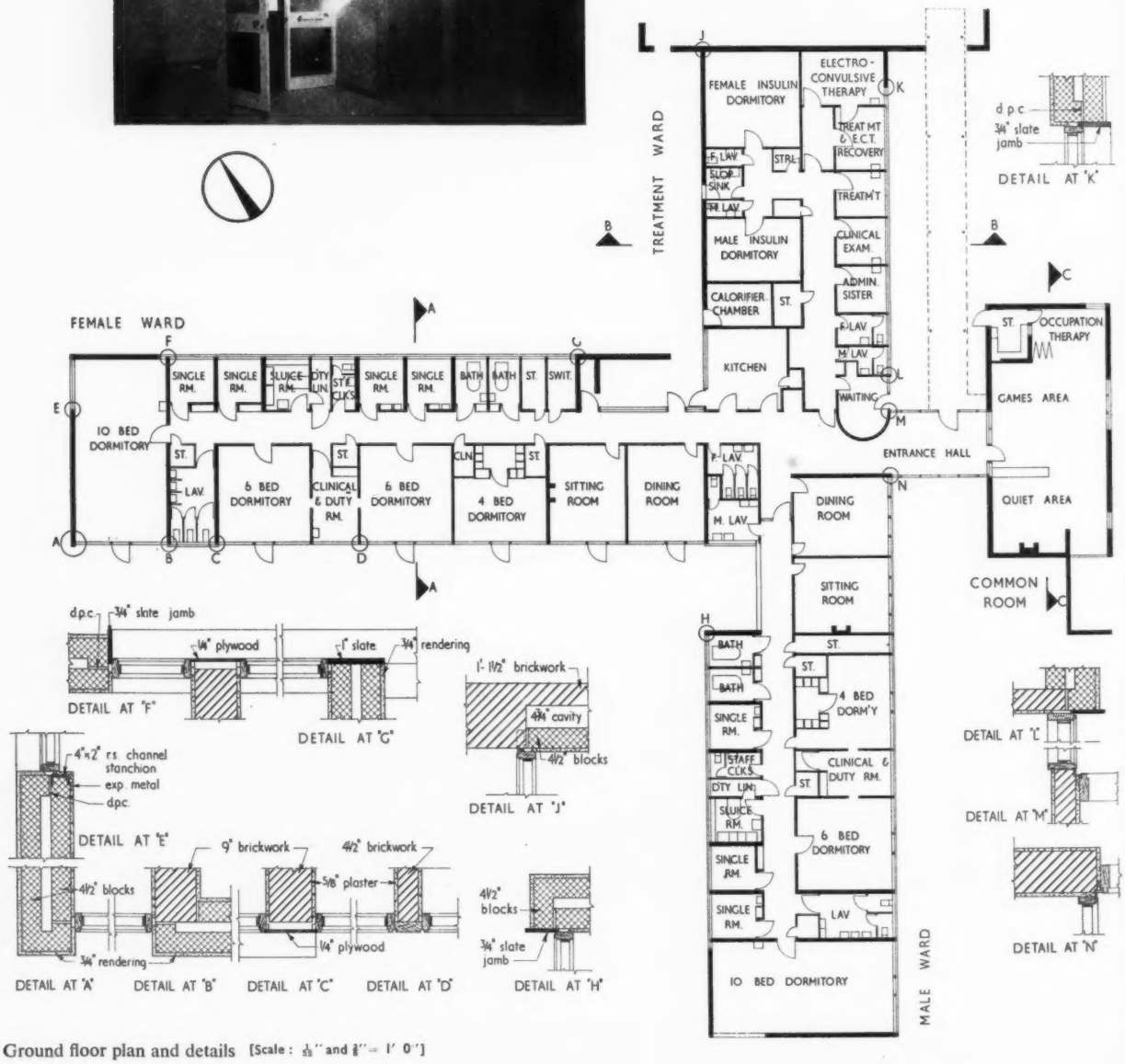
designed by POWELL and MOYA



Above: clerestory lighting in the six-bed wards. Below: clerestory lighting in the corridor at the entrance to the female ward wing.

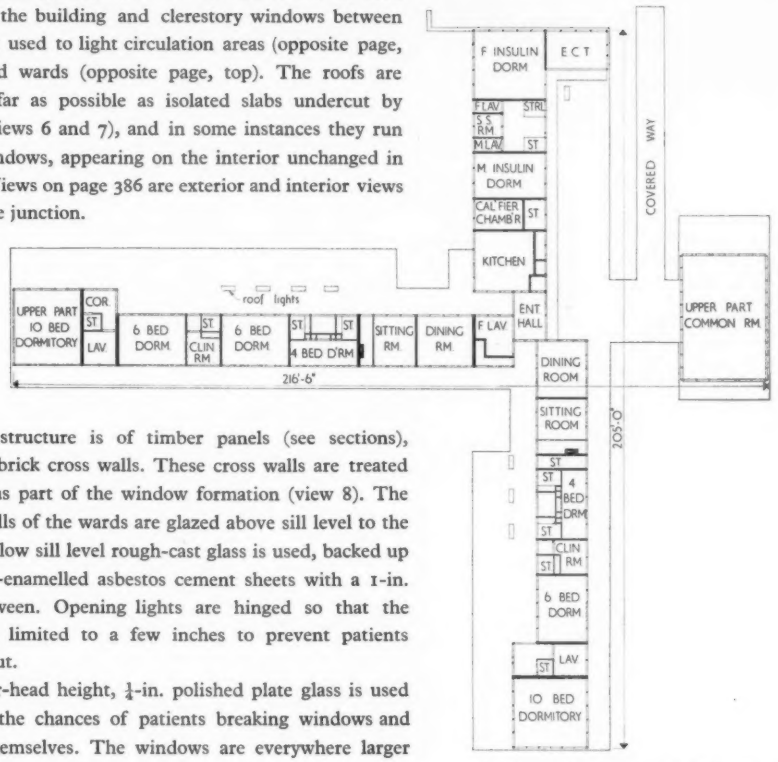


The admission unit consists of two wards, a treatment wing, and a slightly-separated games and occupational therapy room. The wards, one for thirty women and the other for twenty-three men, are at right-angles, with kitchen and common rooms at the junction of the wings. The treatment wing is used for out-patient treatments as well as for the in-patients, and a small waiting room with its own entrance is provided. The bed accommodation is in varying-sized rooms and some of these are adjacent to service rooms, with windows to them for ease of observation. Separate recovery dormitories are provided in the treatment wing. As all the accommodation is on one floor it has been possible to have differing ceiling heights suitable to the differing sizes of rooms, and to obtain clerestory lighting to corridors and stores (see plan of clerestory lighting opposite). Windows generally are of clear glass, privacy being obtained by planning rooms so that no overlooking is normally possible. Where this is not done window sills are above eye level or, as in the rooms adjacent to the entrance path, venetian blinds are provided.



Ground floor plan and details [Scale: $\frac{1}{32}$" and $\frac{1}{8}$" = 1' 0"]

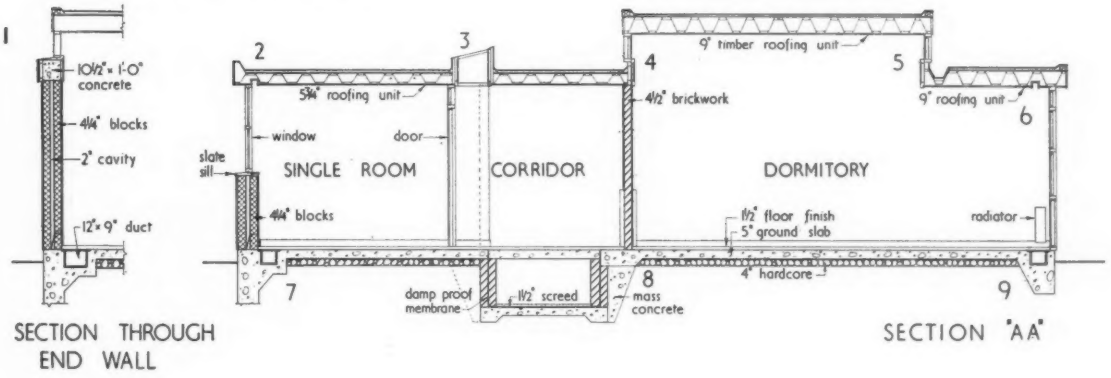
Two main ceiling heights, 7 ft. 6 in. and 10 ft., are used throughout the building and clerestory windows between the two are used to light circulation areas (opposite page, bottom) and wards (opposite page, top). The roofs are treated as far as possible as isolated slabs undercut by windows (views 6 and 7), and in some instances they run through windows, appearing on the interior unchanged in thickness. Views on page 386 are exterior and interior views of the same junction.

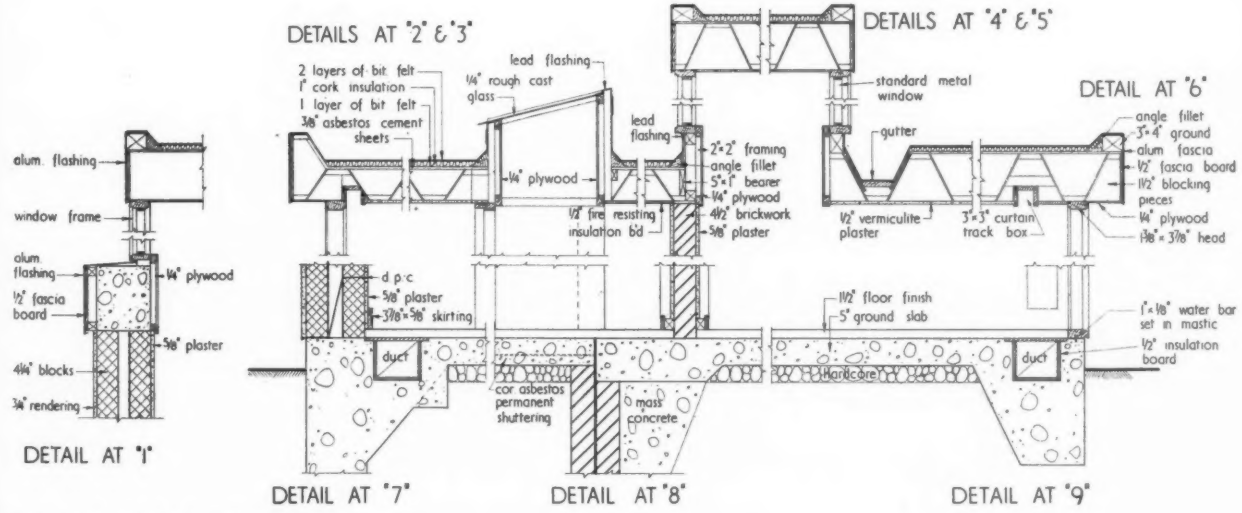


Clerestory level plan [Scale : $\frac{1}{16}$" = 1' 0"]

The roof structure is of timber panels (see sections), resting on brick cross walls. These cross walls are treated externally as part of the window formation (view 8). The exterior walls of the wards are glazed above sill level to the ceilings. Below sill level rough-cast glass is used, backed up with stove-enamelled asbestos cement sheets with a 1-in. cavity between. Opening lights are hinged so that the opening is limited to a few inches to prevent patients climbing out.

Below door-head height, $\frac{1}{4}$-in. polished plate glass is used to reduce the chances of patients breaking windows and injuring themselves. The windows are everywhere larger than is usual in mental hospitals.





Section A-A and details [Scale : $\frac{1}{4}$" and $\frac{3}{8}$" = 1' 0"]

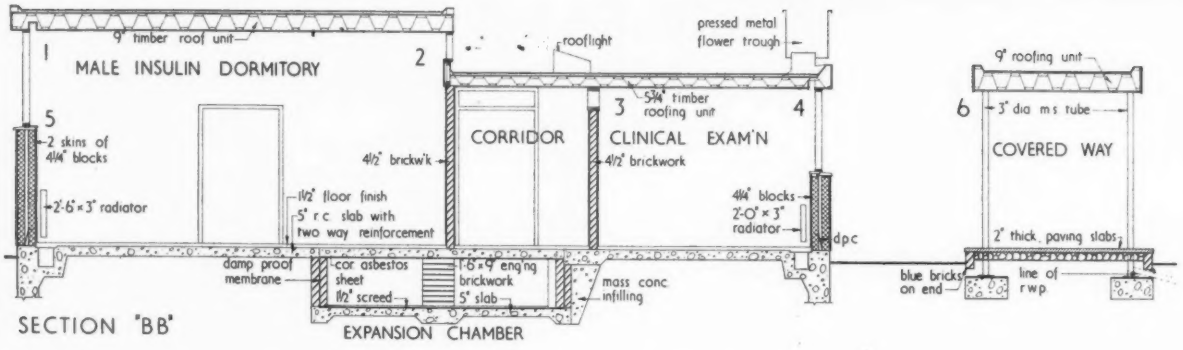
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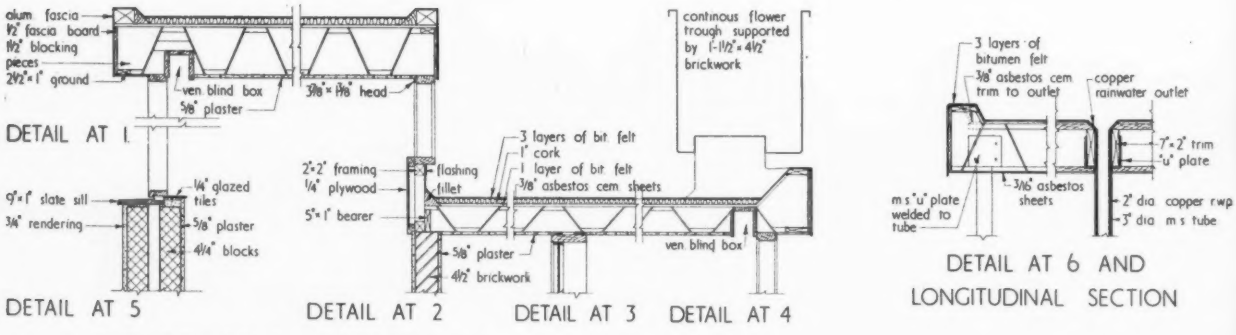
at WALLINGFORD, BERKS.

designed by POWELL and MOYA

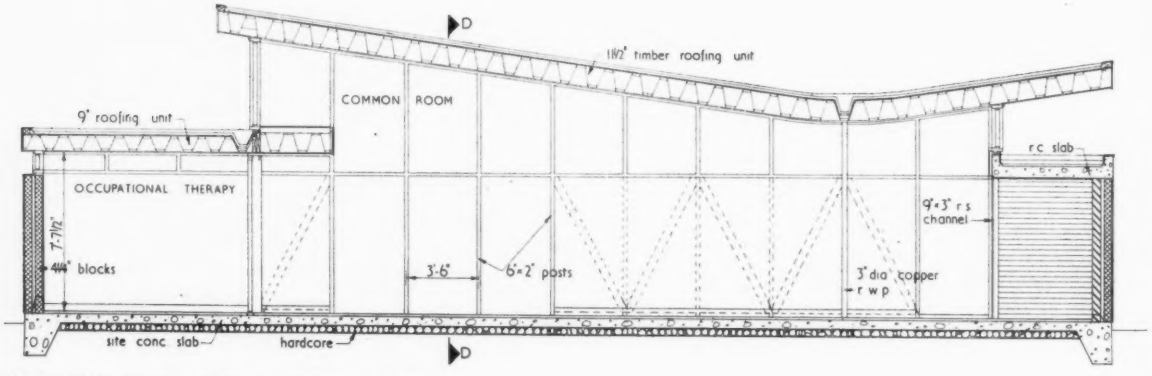


Right: the small roof lights seen on page 387 are over recesses off the centre corridor at the doors to single-bed wards. These punctuate the corridors with bright areas very effectively. The floor finish is thermoplastic tile for reasons of economy.

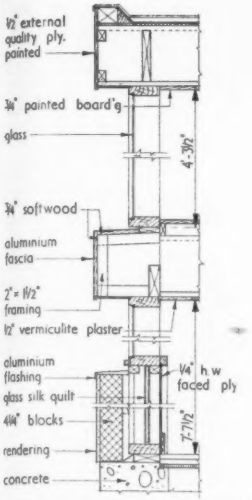




Section B-B and details [Scale : ½" and ¼" = 1' 0"]



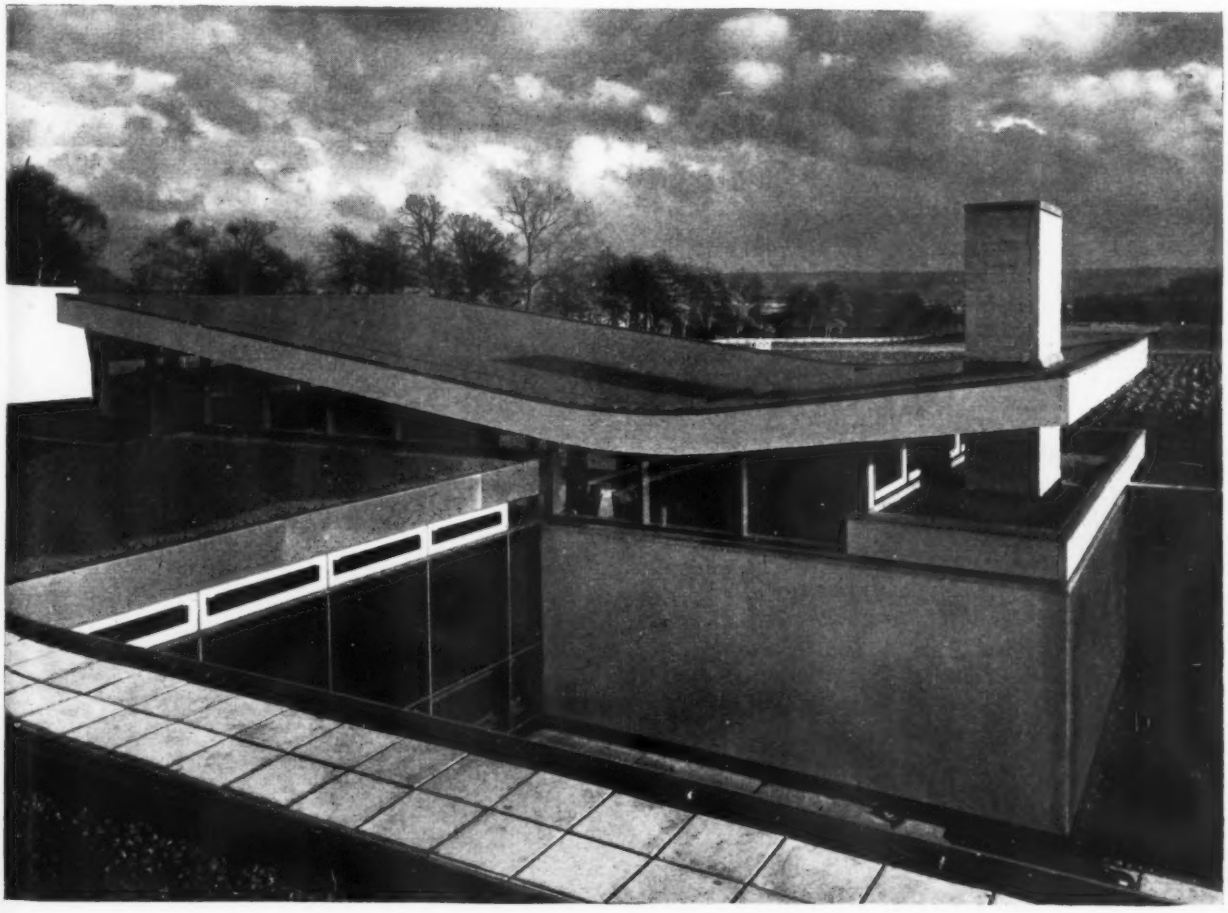
Section C-C, common room [Scale : ¼" = 1' 0"]



Section D-D [Scale : ⅛" = 1' 0"]



Above right (viewpoint) 5: the common room. The roof is supported on a timber frame into which glass is fixed directly, forming a continuous clerestory window. The lower roof is over a fireplace recess off the quiet end of the common room. Wall bracket lighting fittings (used also as bed-head lights) were designed by the architects. Below (viewpoint 4): the common room block from the south-east. The external walls here as elsewhere in the building are 10½-in. cavity construction of two skins of 4½-in. expanded clay blocks. The external finish is a dark grey cement spatter. Opening windows are painted white, and the casement doors black. The clerestory window mullions support the roof.





Above: the common room looking towards the occupational therapy room. Panelling is sycamore, clear-varnished. The circular "column" is a rainwater pipe. The ceiling is softwood boarding, V-jointed. The furniture here and throughout the hospital was selected by the Hospital Management Committee. Below left: view from the service court (viewpoint 6). The door on the right is to the calorifier chamber. The fascia is ribbed aluminium which is returned backwards at the top to form a reversed flashing over the roof finish. Below : looking back towards the entrance (viewpoint 7), with the treatment wing on the left.

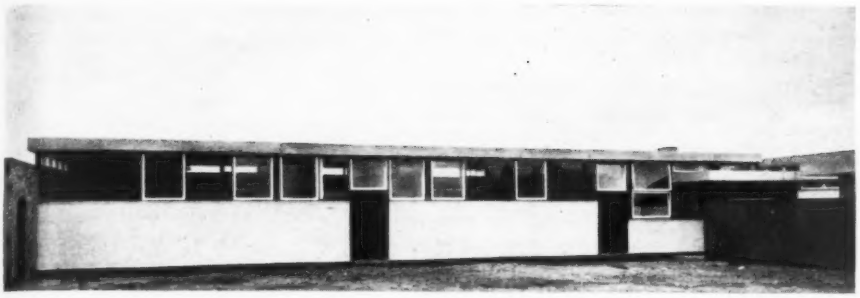
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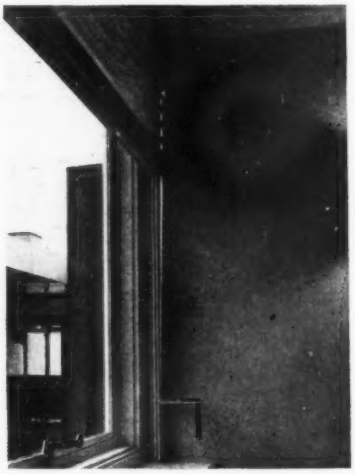
at WALLINGFORD, BERKS.

designed by POWELL and MOYA



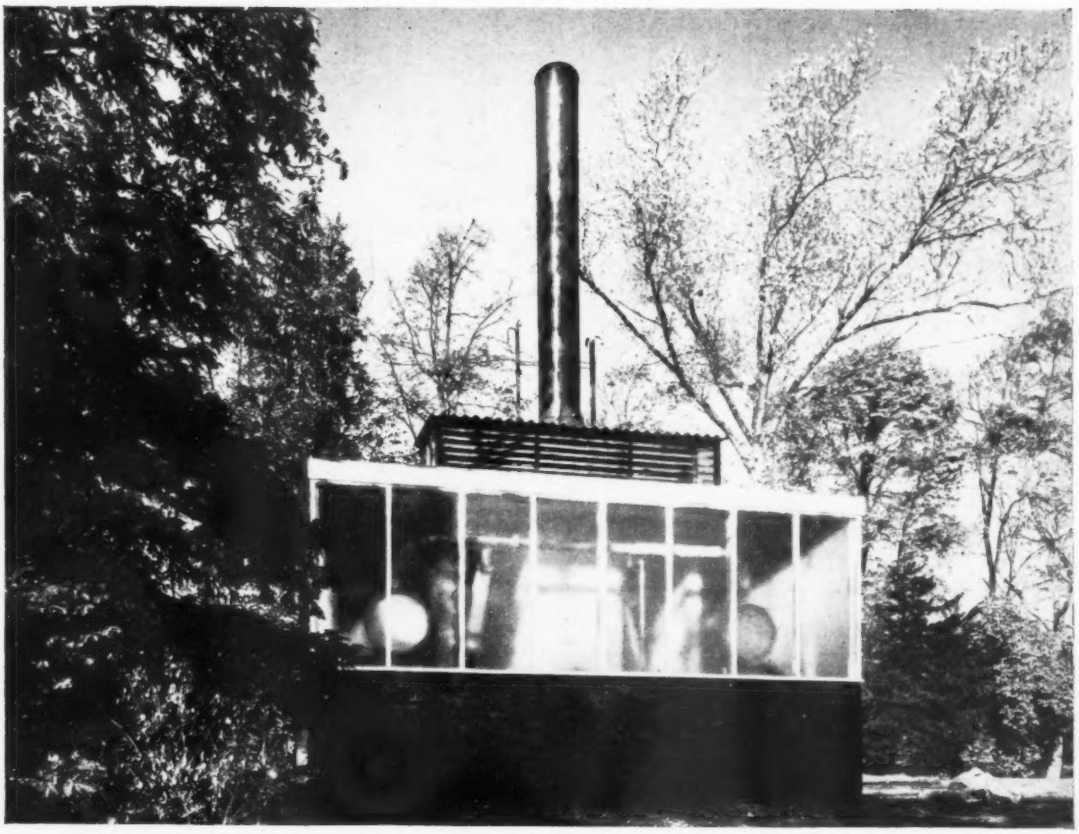






Above (viewpoint 8): elevation of ward side of the treatment block. Left: detail of a venetian blind control in the sister's room.

Below (viewpoint 9): temporary boiler house. The brick wall is painted black, the paintwork is white, and the glass is rough-cast.



ADMISSION UNIT

at WALLINGFORD, BERKS.

designed by POWELL and MOYA

CLIENT'S BRIEF
his stated requirements

The Fair Mile Hospital, near Wallingford, is a mental hospital for about 950 patients and was built in the mid-nineteenth century. A new Admission Unit (or Admission Hospital) was required, to which all new patients, a large proportion of whom are voluntary, would first go. This Admission Unit belongs to the first group of units in the country to be sanctioned since the war by the Ministry of Health, and is the second to be completed. Two new wards, isolated one from another and with separate gardens, were required for newly admitted patients: a 30-bed ward for females and a 28-bed ward for males. A treatment wing would include rooms for insulin and electro-convulsive treatment, and this wing would also be used for the ever-increasing number of out-patients requiring treatment. A main common room would be used by both sexes. The average stay of patients is six to eight weeks and at the end of the stay the majority are discharged. Only a minority would be received into the main building as longer-term patients.

SITE: topography, surroundings, access, planting

The southern boundary of the main hospital's grounds is thickly-wooded and bordered by a small country lane which leads from the main Reading-Wallingford road to the River Thames about a quarter of a mile away. On the other side of this public road is a large field, part of which (about 1½ acres) was reserved for the new admission unit. Alongside, future convalescent blocks may later be built. The site slopes gently from north-west to south-east. There are fine open views to the east, south and west. The Western Region main-line trains to Bristol can be seen in the distance and also the superstructures of the boats travelling on the Thames. The trees to the north screen the existing hospital from view. A hedge runs along the north boundary but there are no trees on the site itself.

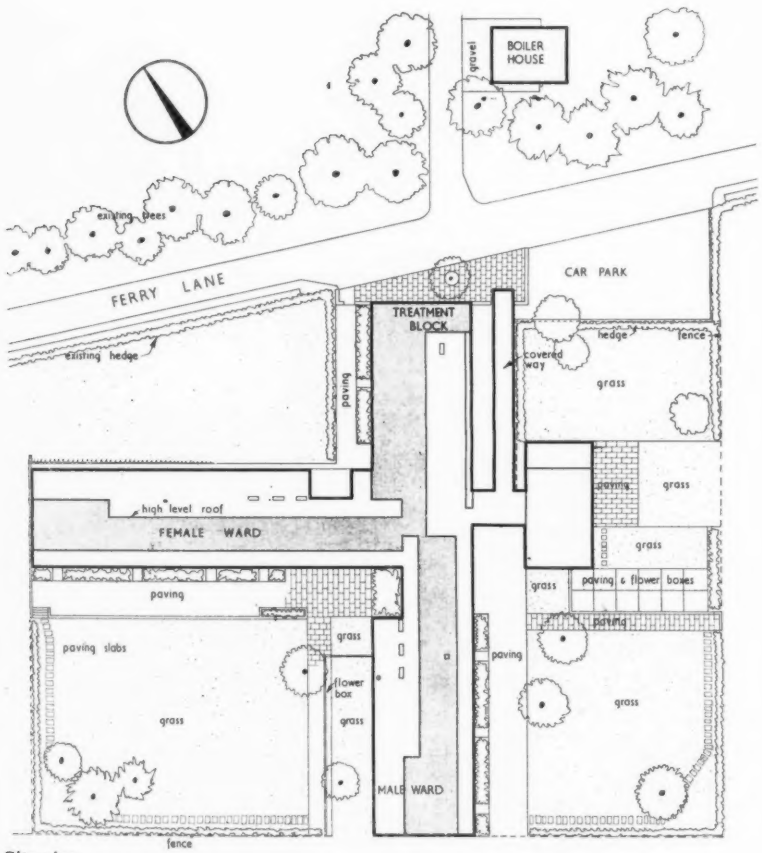
PLAN: general appreciation

The aim has been to design a building which is not only efficient but which has a pleasant and cheerful atmosphere—not normally associated with mental institutions. Advantage has been taken of the relaxation of certain design requirements (e.g. previously panes of glass exceeding 15 in. by 12 in. were not allowed) and the only feature noticeably different from other types of buildings constructed today is that the windows cannot open more than 5 in. in their lower lights and 7 in. in their higher lights.

The building divides itself naturally into four wings—the male ward, the female ward, the treatment wing and the common room. One-storey construction has been chosen as it enables the four wings to be on the same level and to open out on to terraces and gardens. The clerestories and roof lights possible in a one-storey building have allowed for compact planning with short corridors, and without the disadvantages of bad lighting and ventilation. By varying roof levels rooms need not all be of the same height (large rooms are in fact 10 ft. high, smaller rooms only 7 ft. 6 in.). The cruciform plan helps to give an intimate, small scale atmosphere to the building, as only parts of it can be seen at a time. It also divides the open space into semi-enclosed gardens, screened one from another. The treatment wing has been designed so that its rooms have a pleasant aspect, but are not over-looked by other parts of the building. Clear glass has been used in the windows, but where sill levels are low, venetian blinds are provided. In other rooms of this wing sill levels are high so that patients lying on beds or couches have a view of trees and sky without being overlooked. The boiler house is a separate building and is sited on the other side of the road amongst the trees. Its 40 ft. high chimney is not visible from the new building.

MAIN CONSTRUCTION: general appreciation

Load bearing brick cross walls are 9 in. thick where sound insulation is required, elsewhere they are 4½-in. thick, generally about 10-ft. and 20-ft. apart. Roofs are of light composite plywood and softwood construction in troughed units. In certain cases the roofs are carried on hardwood window frames. External walls are generally of two leaves of lightweight concrete blocks rendered externally with a spatterdash finish.



Site plan

cost per sq. ft.	s	d
preliminaries and insurances	4	1·74
contingencies	3	3·31

STRUCTURAL ELEMENTS

Work below ground floor level: foundation type, basement	*Location*	*Materials*	*Finish*	*Reasons and comments*
Strip foundations	Under cross walls	Concrete		Gravel sub-soil, good bearing
Main service trenches	Under corridors	Concrete floor and roof, brick sides, waterproofed		Accessible from large manholes

work below ground floor level	2	6·21

					s	d
External walls and facings	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Generally 10½-in. cavity construction	See drawings	Two leaves of 4½-in. expanded clay blocks	Spatter finish, white, dark grey and pink	To obtain adequate thermal insulation and coloured external finishes not requiring maintenance		
Wall facing Ferry Lane	End of treatment block	Outer leaf of London stocks				
				external walls and facings	**5**	**9·65**
Frame or load-bearing element	*Location*	*Materials*	*Beam spans*	*Column grid*	*Reasons and comments*	
Load-bearing cross walls	Generally	Flettons in 1 : 1 : 6 cement, lime, sand mortar	Roof spans 10 or 20 ft.	Generally	Brief called for a number of separate rooms with a reasonable sound insulation	
Load-bearing timber frame	Common room	African mahogany	Roof spans 24 ft.	Posts at 3-ft. 6-in. centres	Among other reasons to give the Common room a character distinct from the rest of the building	
				included under internal partitions and windows		
Roof construction	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Patent troughed timber roof	Throughout	Composite plywood and softwood covered with ⅜-in. asbestos cement sheeting	Externally: 3 layers of bit. felt with granite chips. Internally: plaster on expanded metal, insulation or wood boarding. Flashings and fascias are combined (ribbed aluminium sheeting)	Can span up to 24 ft. and therefore spans between cross walls without beams		
				roof construction	**9**	**7·39**
Roof lights	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Small lights using a single sheet of glass at a shallow pitch	Recesses in corridors at entrances to rooms (see plans)	Softwood framing, plywood lining, ¼-in. georgian wired rough cast glass		One storey flat roof construction is exploited to help to light internal corridors		
				roof lights		**0·90**
Windows	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Fixed lights glazed to wood, steel projected open out, top hung and pivoted	See drawings	African mahogany frames galvanised steel opening lights	Twice oiled externally; gloss oil paint	Opening restricted to 5 in. at low level, 7 in. at high level; panes appreciably larger than those previously allowed in mental hospitals		
External doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Solid flush, half glazed	See drawings	Semi-solid construction, hardwood veneered	Gloss oil paint	Mostly 3-ft. 6-in. wide to take beds, wheel chairs etc., designed to take large roller bolt lock		
Fully glazed		African mahogany				
				windows and external doors	**5**	**0·69**
Glazing	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Windows, clerestories, glazed doors, and observation panels	See drawings	Below door head heights, ¼-in. polished plate; otherwise 24 oz. and 32 oz.		To reduce risk of breakage and injury		
				glazing	**1**	**1·15**

PARTITIONING

Internal partitions	*Location*	*Materials*	*Finish*	*Reasons and comments*		
To a great extent brick cross walls form partitions						
Non load-bearing	See drawings	1⅝-in. thick reinforced concrete ⅜-in. p.b. core with ⅜-in. plaster both sides, with stretched galvanised wire reinforcement		Low cost and freedom from cracks		
				internal partitions	**1**	**11·42**

W.C. doors and partitions	*Location*	*Materials*	*Finish*	*Reasons and comments*	s	d
Doors		1½-in. skeleton framed flush	Gloss oil paint	Doors were required to open out. Some w.c's had to be 3-ft. 9-in. wide to take wheel chair		
Partitions		1⅛-in. reinforced plaster in softwood frame	Emulsion paint			
				included under internal partitions and doors		

Internal doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Mostly flush, some have small glazed panel, some are fully glazed	Throughout	Semi-solid flush construction hardwood veneered	Gloss oil paint	Most doors are 3-ft. 6-in. wide to take stretcher trolleys, wheel chairs, etc.		
				internal doors	1	8·44

Ironmongery to internal doors	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Large roller bolt locks, oval knobs	All doors	Steel and brass	B.M.A.	Locks, which are mastered in 2 degrees, had to pass keys in use in existing hospital		
Furniture		Brass				
				ironmongery to internal doors		11·31

FINISHINGS

Floor finishes	*Location*	*Materials*	*Finish*	*Cost per sq. foot*	*Reasons and comments*		
Wood block	Common, dining and sitting rooms	1-in. African Missanda	Plastic Seal	40s. 3d.	Wood block was used in day rooms; quarry tiles for floors which are often wet; thermoplastic tiles had to be used generally because of their relatively low cost. Ease of cleaning was a consideration		
Quarry tiles	Lavatories, sluice rooms kitchens, etc.						
Close carpeting	Administration, Sisters' rooms	Hair cord					
Thermoplastic tiles	Generally elsewhere			14s. 1d. 15s. 3d.			
					floor finishes	3	0·93

Wall finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Panelling	Common room	Sycamore faced plywood panels	Alkyd rubber varnish			
Glazed tiles	Sluice rooms, etc. Behind lavatory basins					
Plaster	Generally elsewhere	Gauged hardwall plaster	Flat oil or emulsion paint			
				wall finishes	1	6·67

Ceiling finishes	*Location*	*Materials*	*Finish*	*Reasons and comments*		
Plaster	Generally	Vermiculite plaster on expanded metal	Flat oil or emulsion paint	Jointless thermal insulation, resistance to visible cracking, light dead-weight		
Insulation board	In corridors	Fire resistant insulation board	Emulsion paint	A measure of sound absorption		
Boarding	Common room	¾ in. t. g. V-jointed softwood	Alkyd rubber varnish	The boarding is continued externally		
				ceiling finishes	1	9·07

Decorations	*Location*	*Paint types*	*Munsell or other ref.*	*Colour scheme and comments*		
External	Hardwood frames	Twice oiled	Externally: Black, white, mustard, yellow BS 381 range, Nos. 223, 536, and 540 Internally: Black, white BS 381 range, Nos. 105, 222, 298, 309, 536, 635, 692, and 694. Archrome (Munsell) range, Nos. 20, 21, 27, 28, and 34. Also two pale blues, a pale grey and a pale beige	As the unit is for mentally disturbed and depressed patients the aim has been to obtain lightness and cheeriness, but without restlessness in wards, etc. Decoration in corridors can afford to be more 'stimulating'		
	Steel opening lights	Gloss oil paint				
	Doors	Gloss oil paint				
Internal	Ceilings	Emulsion paint				
	Walls	Emulsion and flat oil paint				
	Wood and metalwork	Gloss oil paint				
	M. and F. sitting rooms	Wall paper				
				decorations	2	2·4

FITTINGS

Built-in fittings	*Location*	*Materials*	*Finish*	*Reasons and comments*
Storage cupboards	See drawing	Softwood framing, flush doors	Gloss oil paint	Solid and slatted softwood shelving
Built-in shelf fittings	M. and F. sitting rooms	Softwood mahogany	Gloss oil paint and alkyd rubber	Common room fitting forms a division between 'games' and 'quiet' areas
Counter height fitting	Common room	Laminated plastic	Varnish	

built-in fittings — s 1, d 10·74

Kitchen equipment	*Location*	*Materials*	*Finish*	*Reasons and comments*
Work top		Laminated plastic topped		The kitchen is used only as a servery and for preparing diets and light meals; other cooking is done in existing hospital
Storage cupboards (some with sliding plate glass doors)		Softwood	Painted	
Double sink unit with drainers		Stainless steel		
Double gas oven, instantaneous water boiler				

kitchen equipment — 7·17

SERVICES

Plumbing: external	*Location*	*Materials*	*Finish*	*Reasons and comments*
Flashings	Common room and clerestory	Lead		
	Elsewhere	Aluminium		Integral with fascia

Rain water disposal	*Location*	*Materials*	*Finish*	*Reasons and comments*
Internal r.w.p.s. draining to soakways	See drawings	Cast-iron down pipes	Emulsion paint	

external plumbing and rainwater disposal — 5·80

Hot water storage	*Location*	*Materials*	*Capacity*	*Reasons and comments*
Two indirect cylinders	Temporary boiler house	Galvanised steel	200 gallons each	Cold water storage in existing hospital

included under drainage

Plumbing: sanitary fittings	*Location*	*Materials*	*Finish*	*Reasons and comments*
Low level w.c.'s, lavatory basins, urinals, slop hoppers, baths and sluice room suites	See drawings	Cast-iron baths otherwise earthenware and fireclay	White glazed	

plumbing: sanitary fittings — s 1, d 5·59

Heating installation: heat exchanger type	*Location*	*Criteria temp.*	*Air change rate*	*Reasons and comments*
Low-pressure accelerated hot water system, c.i. hospital pattern radiators and wall panel heaters	Throughout	Max. flow temp. 150° F.; mean temp. of heating surfaces 140°, air temp. 65° in observation dormitories, elsewhere 60°		Radiator surface temp. kept down to 140° to prevent accidental burning. Treatment rooms can be raised to 70° when in use by electric convectors

Boiler type and capacity	*Location*	*Heat load and fuel type*	*Stoking method*	*Reasons and comments*
Two heating boilers	Temporary boiler house	445,000 B.T.U.'s per hour, 200 sec. fuel oil	Fully automatic	

Water heater type	*Location*	*Fuel type*	*Stoking method*	*Reasons and comments*
One h.w.s. boiler	Temporary boiler house	511,000 B.T.U.'s per hour, 200 sec. fuel oil	Fully automatic	

heating installation, boiler type and water heating type — 13, 1·5

Drainage: type of system	*Location*	*Materials*	*Finish*	*Reasons and comments*
Soil drainage system, connected to existing hospital's system		Salt glazed ware		

drainage — 5, 3·19

ELECTRICAL INSTALLATION

Source and fitting type	*Location*	*Illumination level*	*Quality*	*Reasons and comments*
Recessed prismatic glass	Corridors and some low level ceilings	Dormitories, general 3-ft. candles; local (at each bed), 7-10-ft. candles; other rooms 5-8-ft. candles	Moderately priced purpose-made fittings	Various switching arrangements permit the bracket fittings to give general and local lighting as required

Wiring and switching types	*Location*	*Materials*	*Reasons and comments*
Wiring	Generally	Mineral insulated copper-covered cables	
Switches		Flush type, satin chrome plates	

Power supply type	*Location*	*How distributed*	*Reasons and comments*
13-ampere ring main system	Throughout	Outlets generously distributed throughout building	

	s	d
electrical installation	1	5·67

PAVED AREAS

Paved areas	*Location*	*Materials*	*Reasons and comments*
Terraces	Outside dormitories and dayrooms	Concrete paving slabs	Beds are taken outside in fine weather
Forecourt, car park, paths		Concrete paving slabs, tarmacadam, tarmac and concrete slabs	

all external works	**6**	**7·91**
total gross cost per sq. ft. of floor area	**80**	**5·25**

TIME SCHEDULE

Drawings		Tender date	April 27, 1954
First instructions	June, 1953	Contract signed	September 9, 1954
Sketch scheme submitted	July 30, 1953	Work commenced	June 8, 1954
Sketch scheme approved and working drawings started	October, 1953	Work completed	October 20, 1955
		Type of contract	RIB A (quantities)

COST ANALYSIS

Total ground floor area of superstructure	15,261 sq. ft.	Tender cost of ancillary buildings and gross total cost	£61,375
Tender cost of superstructure	£47,034	Cost per foot super of floor	80s. 5¼d.
Tender cost of foundations and basement	£4,878	Cost per foot cube including basement	5s. 10½d.

COST COMMENTS

In some aspects this analysis shown above can be compared with the Welwyn Health Centre Cost Analysis (AJ, February 2, 1956), the common factors being that both designs rely on load-bearing external walls and partitions and have a patent form of roof construction. The total of structural elements in this scheme amount to 26.3¼ compared with 33.3½ for the Health Centre, which may indicate the relationship between the slower and more traditional form of construction with the more expensive prefabricated factory produced components speedily erected on site.

The cost of the patent roof construction is relatively high but the plan shape with a long perimeter and roofs at varying levels, produces a high cost for the eaves construction, and this must be considered when making comparisons. The breakdown of the plan shape into small room units, together with special clients' requirements, produce the following points of interest which reflect in the overall cost picture:

1. Additional fittings and switches for general lighting to rooms and local lighting for beds.
2. Additional low temperature radiators.
3. Increased hot water requirements. In connection with the cost of 13s. 1½d. for the heating and hot water installation which is unusually high for any form of building, it should be noted that the boiler house, etc., is located at a reasonable distance from the main scheme and the cost of ducts to carry these heating services would increase the cost of this work.

Architects: Powell and Moya, A/A.R.I.B.A. *Assistant Architect-in-Charge:* Robert Henley, A.R.I.B.A. *Assistant Architect:* Derek Stow, A.R.I.B.A. *Consulting Engineers: Heating and Electrical:* J. Roger Preston & Partners. *Quantity Surveyors:* Davis, Belfield and Everest. *Clerk of Works:* A. E. Beesley. *General Contractors:* W. E. Chivers & Sons Ltd. *Nominated Sub-contractors and suppliers: Roofing:* Newsum & Sons & Co. Ltd. *Roofing felt:* William Briggs & Sons Ltd. *Wood block flooring:* Horsley, Smith & Co. (Hayes) Ltd. *Door furniture and ironmongery:* Chubb & Sons Lock and Safe Co. Ltd. *Electric wiring:* Troughton & Young Ltd. *Casements:* The Crittall Manufacturing Co. Ltd. *Sliding door gear:* E. Hill Aldam & Co. Ltd. *Kitchen equipment:* Radiation Group Sales Ltd. "*Stonite*" *rendering:* Callow & Keppich Ltd. *Wallpaper:* Arthur Sanderson & Sons Ltd. *Slate sills:* The Bow Slate and Enamel Co. Ltd. *Sun blinds (Venetian):* The Crittall Manufacturing Co. Ltd. *Clocks:* Gent & Co. Ltd. *Asbestos cement:* Atlas Stone Co. Ltd. *Timber preservative,* Hickson's Timber Impregnation Co. Ltd.

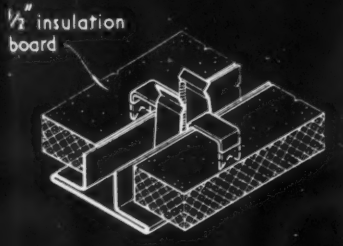
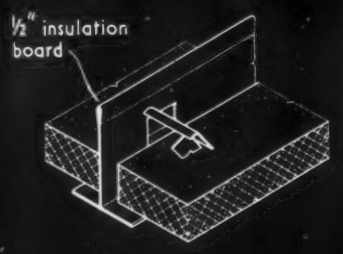
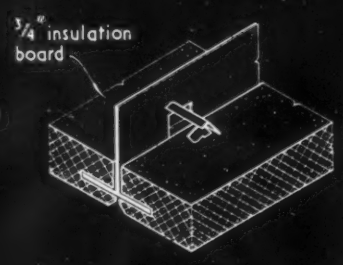
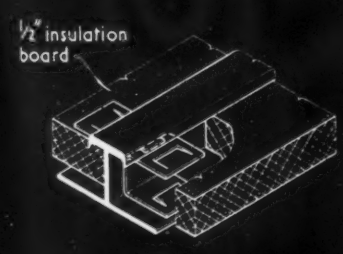
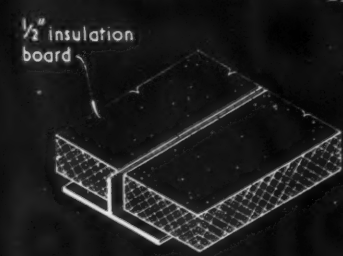
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5·67

7·91
5·25

CEILINGS | BUILDING BOARD

The Architects' Journal Library of Information Sheets 563. Editor: Cotterell Butler, A.R.I.B.A.

ISOMETRIC SKETCH	SYSTEM	DESCRIPTION	
	Bowater talon fixing no. 1 (B.T.1.)	exposed steel rail	seamless sherardized steel rail, with channel on upper side accommodates talon fixing and purlin strap
	Bowater talon fixing no. 2 (B.T.2.)	exposed m.s. or aluminium-alloy tee	web of tee slotted at 1'-0" crs. for screwless talon which bites into board when in position
	Bowater talon fixing no. 3 (B.T.3.)	concealed m.s. tee	tee and screwless talon similar to B.T.2. system but used with 2'-0" x 2'-0" panels of ¾" board, machine-cut, chamfered and rebated. flange of tee engages in rebate
	Bowater talon fixing no. 4 (B.T.4.)	exposed aluminium-alloy tee	clips at 1'-0" crs. grip the boards and engage under the top flange of the tee
	Bowater purlin fixing (B.P.1.)	exposed m.s. or aluminium-alloy tee	permits roof sheeting and insulation board to be fixed simultaneously. board, laid over purlins, supported by tee rails and held rigidly in position by the sheeting hookbolts

·BOWATER· TALON SYSTEMS OF BOARD FIXING.

Manufacturer : Building Boards Division, Bowaters Sales Company Limited.

22.D6 ·BOWATER· SYSTEMS OF BOARD FIXING

This Sheet summarises the five types of Bowater board fixing described in detail on Sheets 22.D1, 22.D2, 22.D3, 22.D4, and 22.D5. The table on the face shows the principle of each type and the following notes briefly describe its fixing to the structure and applications.

Systems

B.T.1: The mild steel strap hangers are shaped at the lower end to fit into the main tee section. The system may be fixed to structural members of any shape, either horizontally to form a suspended ceiling or parallel to the roof structure as a lining. (See Sheet 22.D1).

B.T.2: Twisted mild steel strap hangers are bolted by 3/16 in. nuts and bolts to the web of the main tee. The system may be used as B.T.1, for a suspended ceiling or under-purlin lining. (See Sheet 22.D5).

B.T.3: Twisted mild steel strap hangers are bolted to the main tees as for B.T.2. The system may be used, as B.T.1, for a suspended ceiling or under-purlin lining. (See Sheet 22.D3).

B.T.4: The main tees are suspended by mild steel strap hangers which are held in a spring steel socket which fits over the top of the tee. The system may be used, as B.T.1, for a suspended ceiling or under-purlin lining. (See Sheet 22.D2).

B.P.1: The system of over-purlin lining was developed to permit roof sheeting and insulation board to be fixed simultaneously. (See Sheet 22.D4.)

Compiled from information supplied by:
Building Boards Division,
Bowaters Sales Company Limited.
Address: Bowater House, Stratton Street, London, W.1.
Telephone: Mayfair 8080.

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·GYPKLITH· WOOD-WOOL SLABS: GENERAL DATA

This Sheet is the first of a series on Gypklith wood-wool slabs. It describes the general characteristics and properties of the material and gives the standard sizes in which it is available. The slabs are manufactured in accordance with BS. 1105 : 1951 *Wood Wool Building Slabs.*

Description

Gypklith slabs consist of wood fibre, compressed and bound with cement. They are light in weight, though strong and durable. They have good thermal and sound-insulating properties and are sound-absorbent. In addition they are fire-resistant and proof against vermin and fungi. The surface of the slabs provides an excellent key for gypsum plaster or cement rendering.

Types

Gypklith is available in the following types:

Normal quality: This is the type most used for general purposes, especially where thermal insulation is a consideration. In appropriate thicknesses it is intended for roofs, walls, partitions and ceilings, and permanent shuttering.

Heavy duty: This type possesses greater strength than the normal quality and is intended more particularly for roof construction or permanent shuttering. It may also be used for the other purposes indicated for the normal quality slab.

Both these types are as defined in BS. 1105 : 1951.

Timber reinforced: These slabs contain three timber reinforcing battens, treated by the Tanalising rot-proofing process. The battens are spaced at equal intervals in the centre of the thickness of the slab and run parallel to the longitudinal edges.

Channel reinforced: These are 2-in. or 3-in. normal quality slabs with a 2-in. rust-protected channel fitted to each longitudinal edge. With the 3-in. slab, one flange of the channel is flush with the surface and the other embedded in the side of the slab.

Reinforced slabs provide superior structural strength over greater spans, and are especially suitable for flat roof constructions. They are not covered by BS. 1105 : 1951.

Acoustic tiles: These are made from fine wood fibre and have bevelled edges. They are for use where an unplastered sound-absorbing surface is required.

Standard Sizes

All slabs are 2 ft. 0 in. wide by 6 ft. 0 in. long and are available in the following thicknesses:

Normal quality: 1 in., 1½ in., 2 in., 2½ in. and 3 in.
Heavy duty: 2 in.
Timber reinforced: 1½ in. and 2 in.
Channel reinforced: 2 in. and 3 in.
Acoustic tiles are 2 ft. 0 in. square and 1 in. thick.

Weight

The following table gives the weights of the different types of Gypklith:

Type of slab	Normal Quality					H'vy duty	Timber, reinf'c'd		Channel reinf'c'd	
Thickness (in) ..	1	1½	2	2½	3	2	1½	2	2	3
Approx. wt. (lb.)	34	45	52	66	77	67	53	60	62	87
Approx. wt./sq. yd. (lb.) ..	25½	33½	39	49½	58	50	40	45	46½	65

Strength

Tests of crushing strength carried out at the National Physical Laboratory revealed that a loading of 19 tons per sq. ft. is required to compress normal quality Gypklith slabs to half their thickness.

The deflection under load of the slabs meets the requirements of BS. 1105, Clause 8.

Thermal Insulation

The thermal conductivity of normal quality Gypklith as determined by tests at the National Physical Laboratory is 0·57 B.t.u/ft² h deg. F thickness.

Sound Insulation

Gypklith slabs are very suitable for constructions designed to meet the standards of sound insulation recommended in British Standard Code of Practice CP3, Chapter III, 1948, for houses, flats and schools. The following are three examples of partitions offering good resistance to airborne sound. The figures were obtained by tests at the National Physical Laboratory.

3-in. Gypklith plastered on both sides with ½-in. thickness of Paristone plaster (weight 17½ lb./sq. ft. approx.) gives an average sound reduction factor, over the frequency range of 250 to 4,000 c.p.s., of 35 decibels.

3-in. Gypklith plastered on both sides with ¾-in. Paristone plaster and with all edges isolated from the surrounding structure with resilient material ½-in. thick (weight 22 lb./sq. ft. approx.) gives an average factor of 48 decibels.

Two skins of 1-in. Gypklith on staggered studding forming a discontinuous construction, plastered on both sides with ¾-in. Paristone plaster and with all edges isolated from the surrounding structure with resilient material ½ in. thick (weight 22 lb./sq. ft. approx.) gives an average factor of 55 decibels.

Sound Absorption

As an acoustic treatment Gypklith may be left unplastered: the joints between slabs should be covered with narrow cover strips or neatly pointed with cement. Alternatively Gypklith acoustic tiles may be used: these are fixed by nailing or screwing to timber battens at 2-ft. centres or used as permanent shuttering to concrete.

Sound absorption coefficients for normal quality Gypklith slabs and for Gypklith acoustic tiles are given in the table below:

Type	Reverberation absorption co-efficients for frequency bands in region (cycles per second)				
	250	500	1,000	2,000	4,000
Normal quality Gypklith mounted on battens ..	0·40	0·75	0·70	0·60	0·75
Gypklith acoustic tiles mounted on battens ..	0·45	0·90	0·70	0·55	0·75

Fire Resistance

When erected and plastered in accordance with the manufacturer's specifications, Gypklith has a high resistance to fire. Fire tests on solid partition constructions carried out according to BS. 476 : 1953 *Fire Tests on Building Materials and Structures* gave the following results.

14.K1 'GYPKLITH' WOOD-WOOL SLABS: GENERAL DATA

2-in. Gypklith plastered on both sides with ½-in. thickness of Paristone plaster: 1-hour grading.
3-in. Gypklith plastered on both sides with ½-in. thickness of Paristone plaster: 2-hour grading.

Internal Plastering

Before plastering Gypklith slabs, all joints and angles should be reinforced with jute scrim or rust-resisting metal fabric. This should be 3½ in. minimum in width and set in a 1 : 1½ (by volume) mix of haired Paristone Browning Plaster and sand. Where 1, 1½ or 2 in. Gypklith is to be plastered on one side only, 22-gauge galvanised wire netting of 2-in. maximum mesh should be attached loosely over the entire surface to reinforce the plaster: this also applies where slabs in these thicknesses used as permanent shuttering are to be plastered. With all-over reinforcement, it is not necessary to reinforce the joints. The following types of plaster finish are recommended.

Paristone plaster: The undercoat should consist of 1 part (by volume) of haired Paristone Browning Plaster to 1½ parts of sand to BS. 1198 : 1944 Class A, and should be ⅜ in. thick. The finishing coat should consist of either a 3 : 1 (by volume) mix of Paristone Wall Finishing Plaster and hydrated lime to BS. 890: 1940 Class A or neat Paristone Wall Finishing Plaster to a thickness of ⅛ in. Total thickness: ½ in.

Gyplite ready-mixed vermiculite plaster: A ⅜-in. undercoat of Gyplite undercoat plaster should be followed by ⅛ in. of Gyplite finishing plaster. Total thickness: ½ in.

External Rendering

Where an external surface of Gypklith slabs is to be rendered it should first be covered with wire netting of 2-in. maximum mesh to reinforce the rendering and the joints in the slabs. The netting should be tacked at frequent intervals and lapped at least 1 in. where two pieces adjoin.

The first coat should be a 1:3 (by volume) mix of water-repellent cement and sand, hand-mixed and applied by steel trowel to a maximum thickness of ⅜ in. The surface should be scored for the second coat and left for as long as possible (4 days minimum). The second coat, consisting of 1 : 1 : 5 (by volume) mix of Portland cement, lime and sand, should be floated on as thinly as possible, keyed and left as long as site conditions permit (4 days minimum). The finishing coat should consist of 1 part (by volume) of Portland cement to 1 part lime and 5 parts sand. When firm it should be finished with a wood float and, when dry, scraped with a steel straight-edge to remove laitance. It should then be lightly brushed to remove dust and leave a clean, textured finish.

Further Information

The manufacturer maintains a technical advisory department which is available to give advice on all aspects of this subject.

Compiled from information supplied by:—

Gyproc Products Ltd.
Head Office : Singlewell Road, Gravesend, Kent.
Telephone : Gravesend 4251–4.
Telegrams : Gyproc, Gravesend.
Glasgow Office : Gyproc Wharf, Shieldhall, Glasgow, S.W.1.
Telephone : Govan 2141–3.
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WORKING DETAIL

DISPLAY FITTING: SHOP IN LONDON W.1

Robert A. Spitz, designer, in collaboration with Neville Conder, architect, and Michael H. Hitchman, executive architect

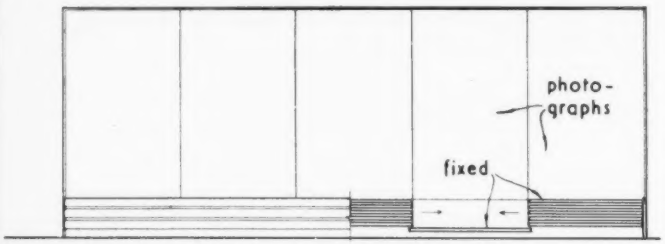


The object of this case is to display carpets in approximately the same plane in which they will be seen in use while avoiding the exhausting practice of lifting up each piece and throwing it back over a roll. The three uppermost surfaces of the case are fixed: beneath each are five movable trays which are suspended on sliding door gear and which can be slid into view in one or other of the two wells.

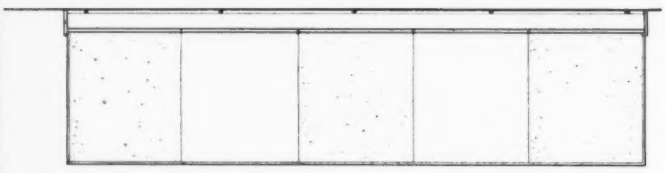
WORKING DETAIL

DISPLAY FITTING: SHOP IN LONDON W.1

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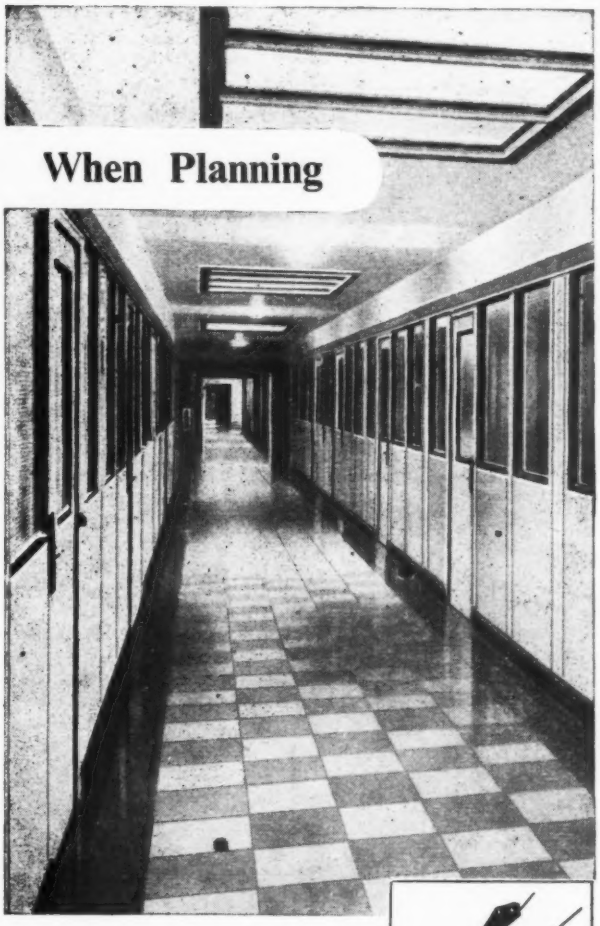
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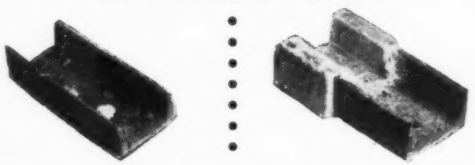
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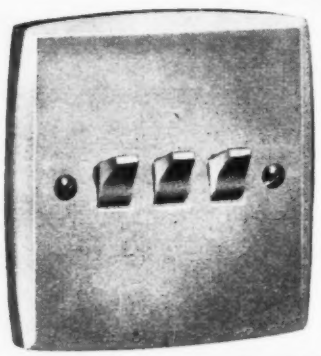
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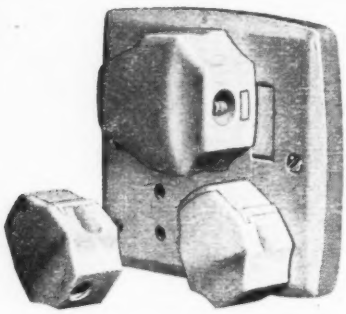
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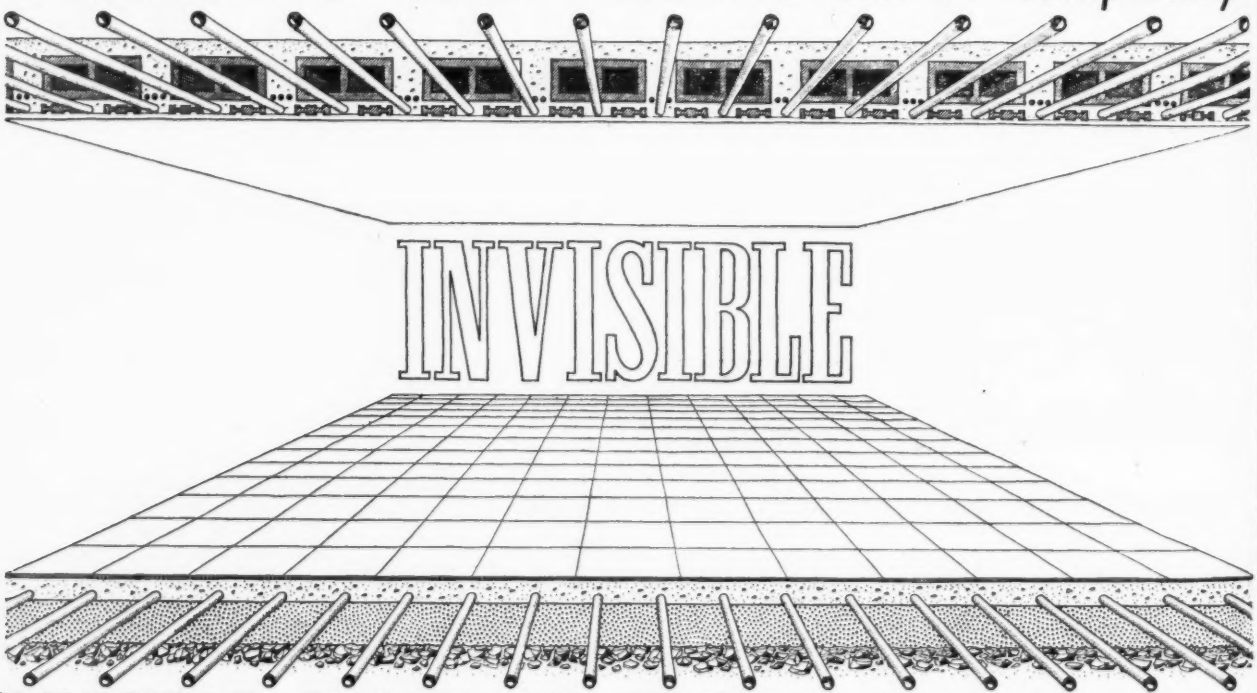
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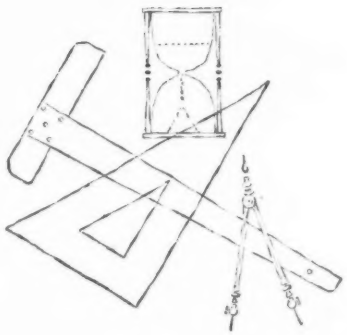


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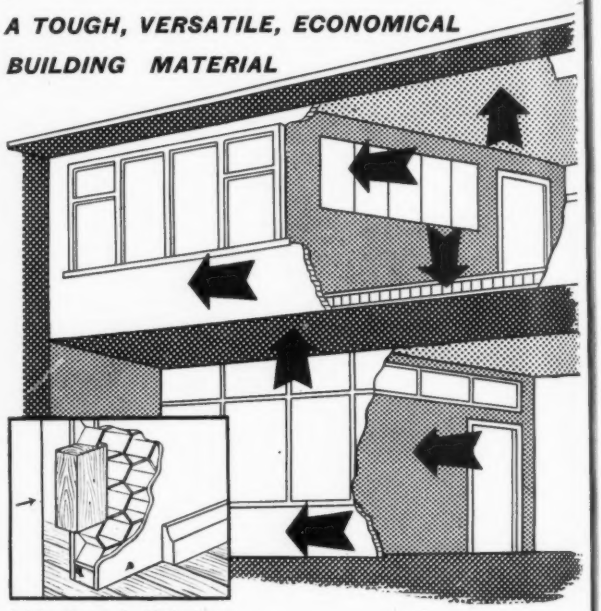
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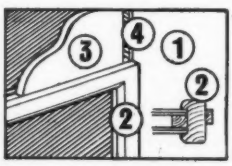


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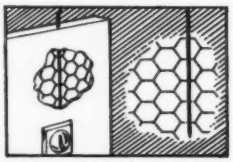
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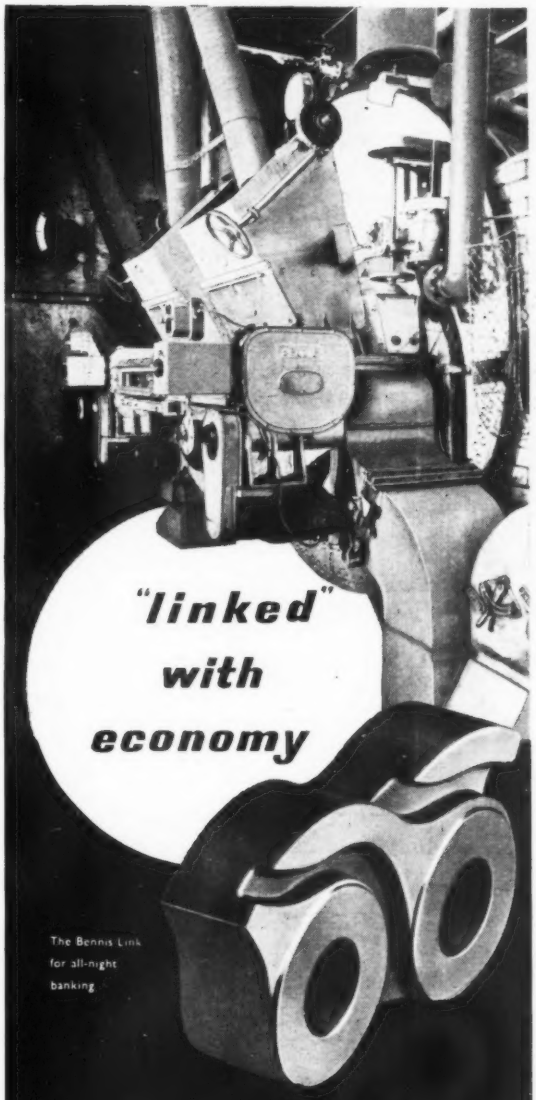
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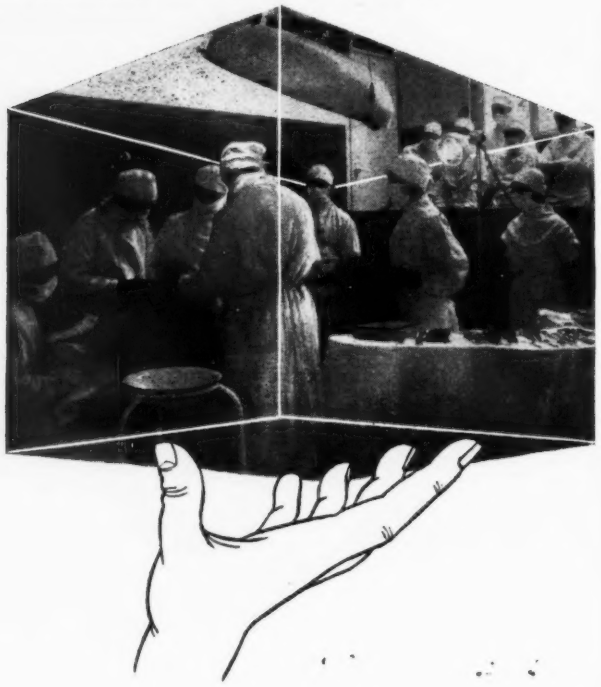
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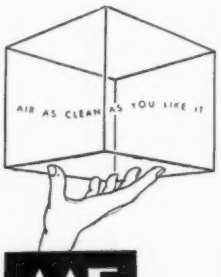


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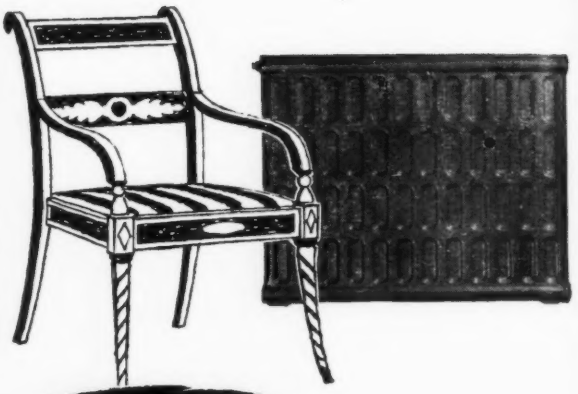
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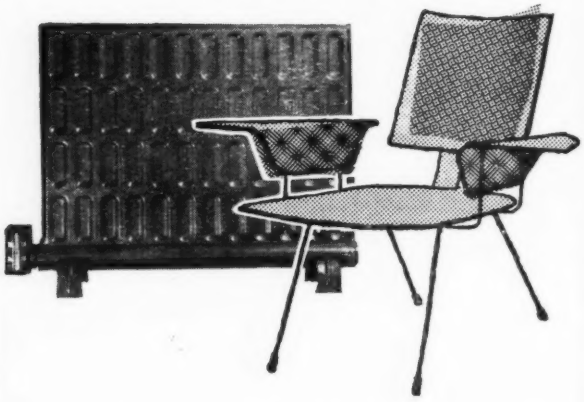
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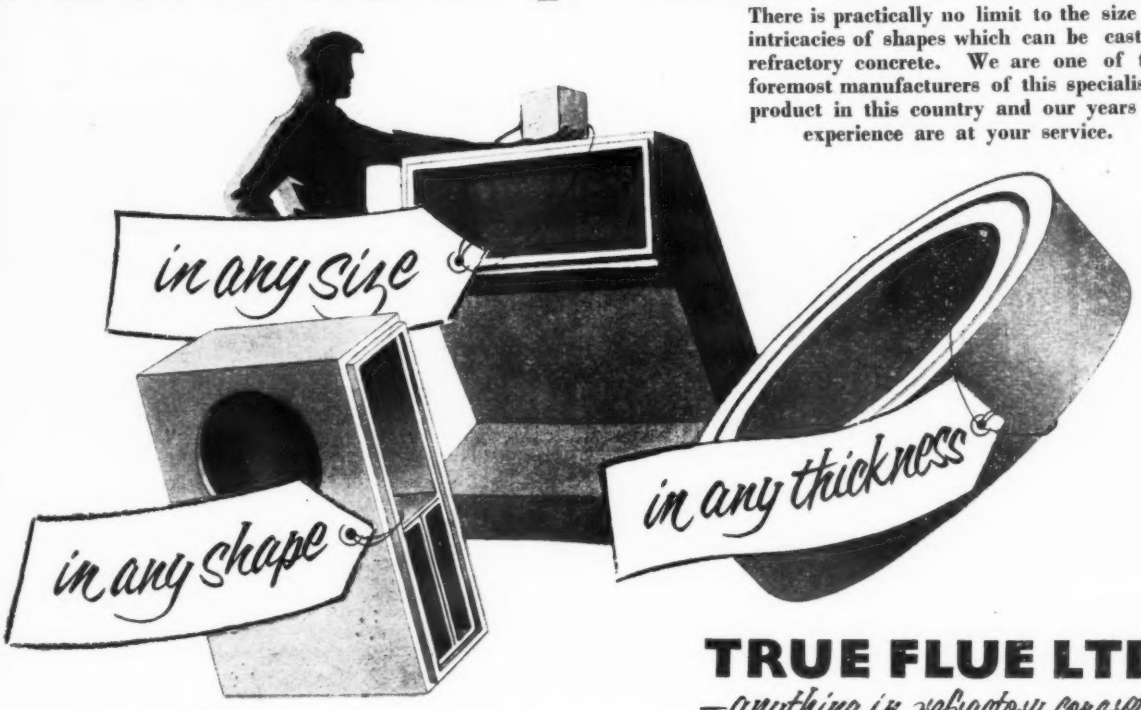
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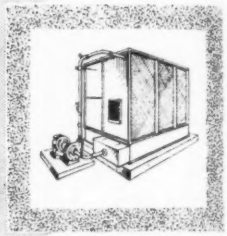
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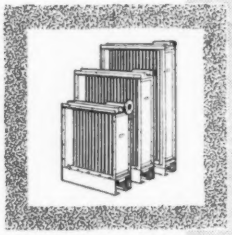
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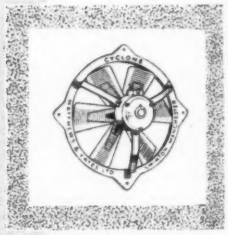
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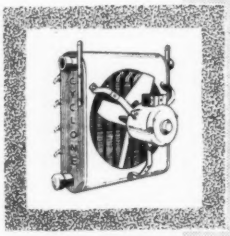
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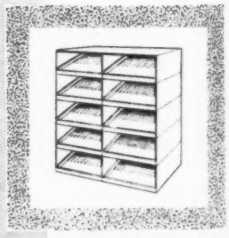
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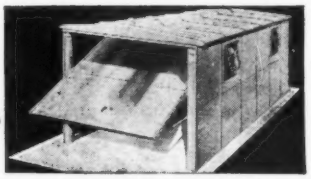
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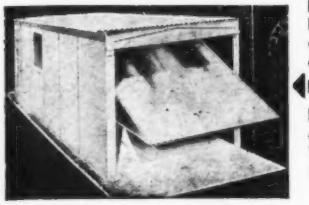
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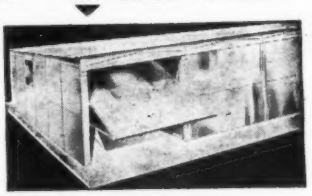


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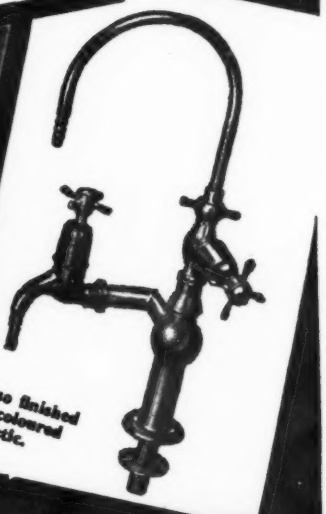
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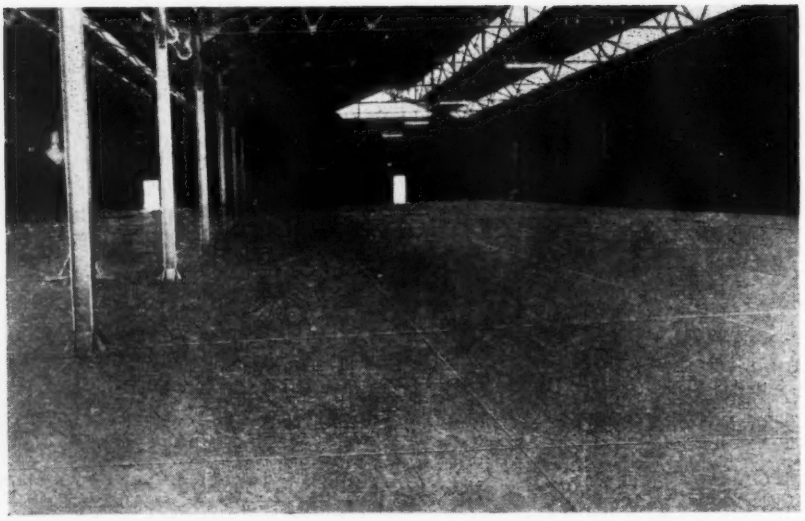


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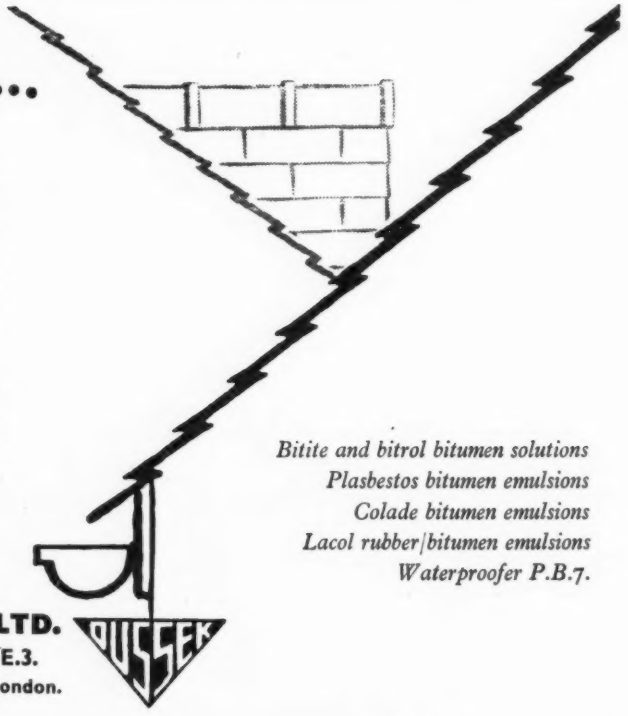
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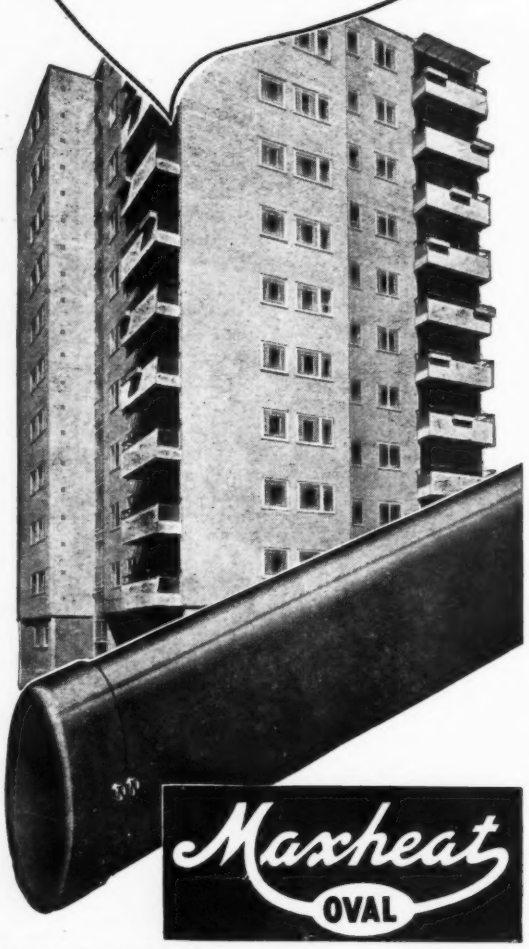
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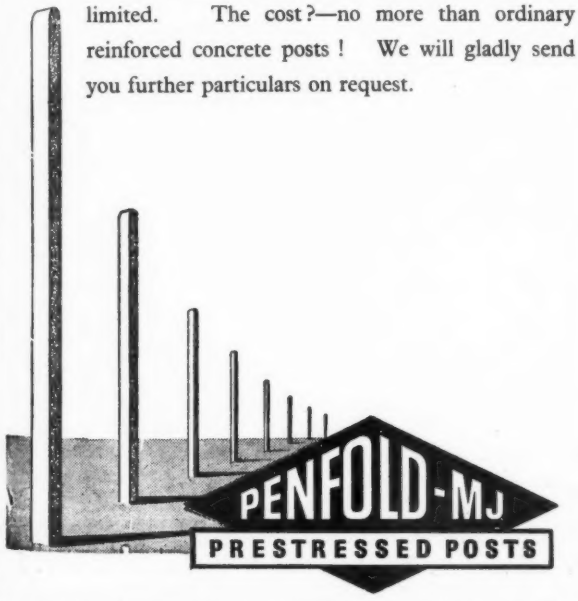
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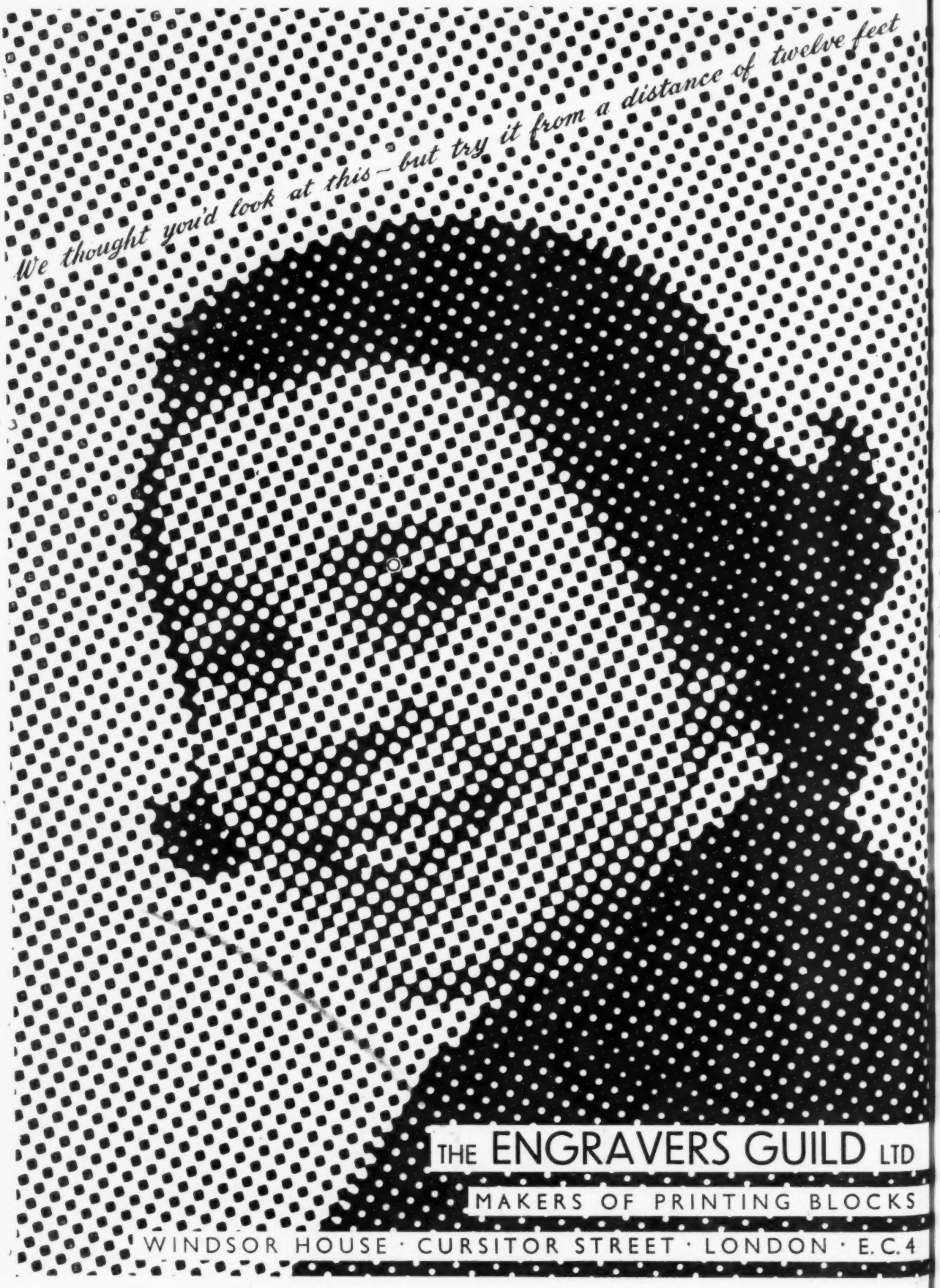
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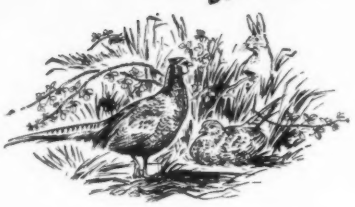
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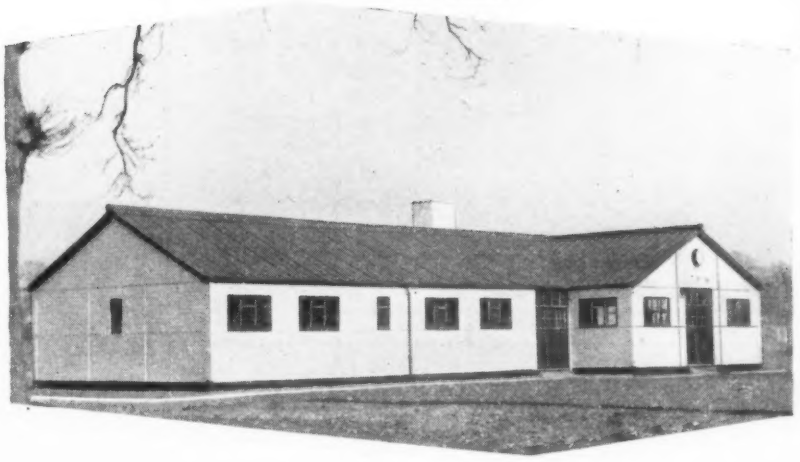
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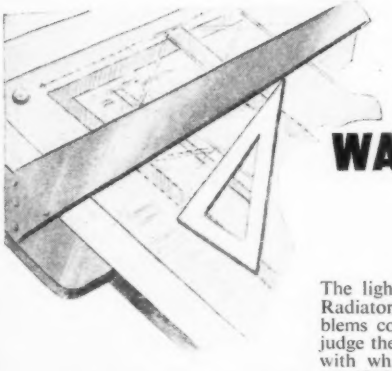
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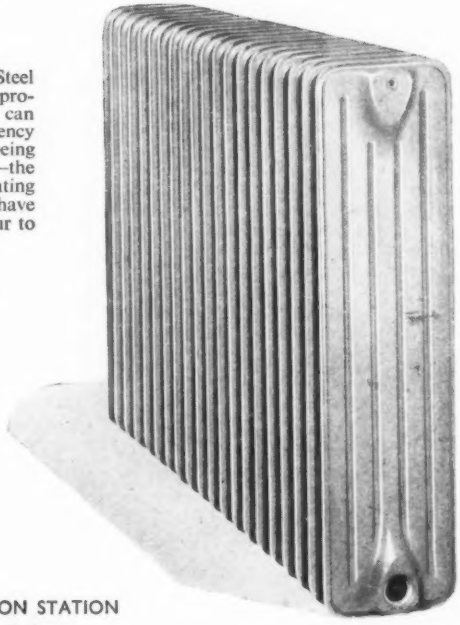
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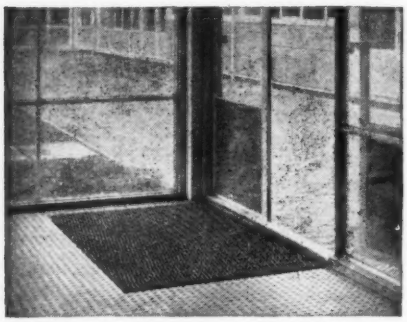
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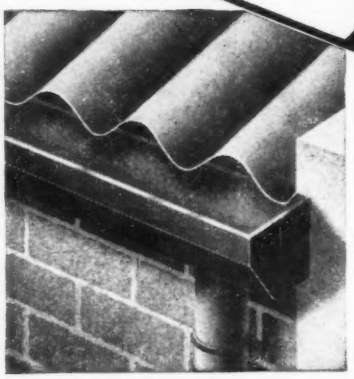
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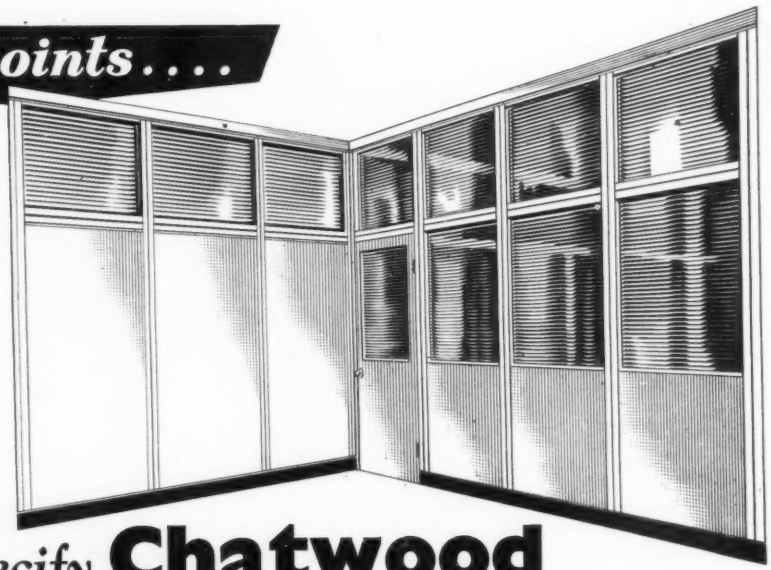
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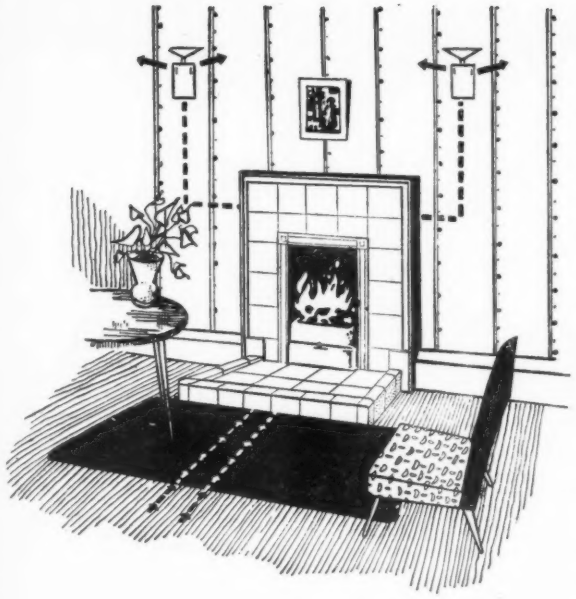
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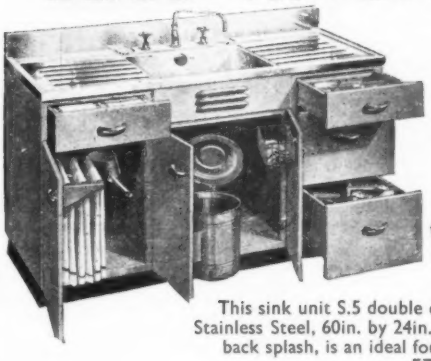
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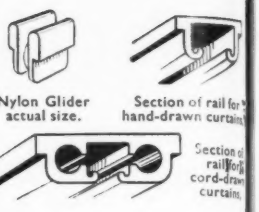
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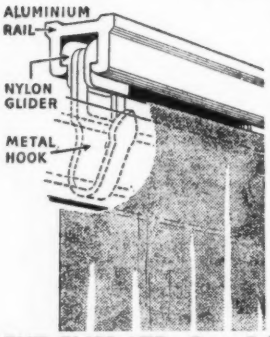
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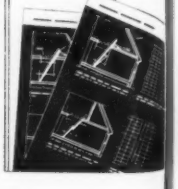


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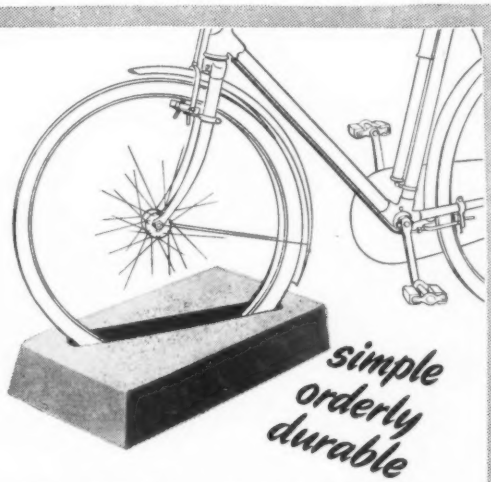
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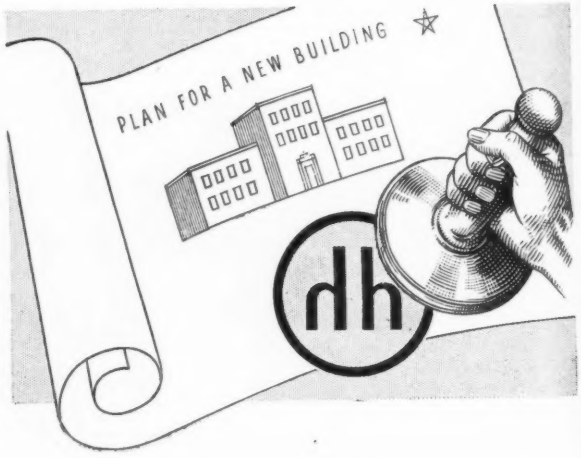
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CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

Public and Official Announcements

25s. *per inch; each additional line,* 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 *inclusive or a woman aged* 18-59 *inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order,* 1952.

GOVERNMENT OF NORTHERN IRELAND

Applications are invited for the permanent and pensionable post of ASSISTANT (STRUCTURAL) ENGINEER, Class II, in the Directorate of Works, Ministry of Finance.

Salary scale, £675 × £25—£750 × £30—£960 × £40—£1,000, plus Pay Supplement of amounts between £55 and £95 a year. Minimum of scale linked to age 26 with increase of one increment for each year above that age subject to maximum entry point of £900. Officers of age 25 enter at £650; those under age 25 are paid according to qualifications and experience.

Candidates must be Corporate Members of the Institution of Civil Engineers or (by examination) the Institution of Structural Engineers and have had experience of steel and reinforced concrete design applied to building structures.

Preference will be given to candidates who served in H.M. Forces during the 1914-18 or 1939-45 wars, provided that such candidates are, or within a reasonable time will be, able to discharge the duties efficiently.

Application forms may be obtained from the Secretary, Civil Service Commission, Stormont, Belfast, to whom they should be returned, together with copies of two recent testimonials. 9266

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL.

Applications are invited for:—

(*a*) ARCHITECTURAL ASSISTANT (PERMANENT), Grade A.P.T. II, *i.e.*, £595—£675 p.a.; (*b*) SENIOR ARCHITECTURAL ASSISTANT (TEMPORARY), Grade A.P.T. IV, *i.e.*, £710—£885 p.a., plus London weighting in both cases, 21-25 years £20 p.a., 26 years and over £30 p.a. Candidates for (*a*) must have passed the R.I.B.A. Inter. Exam., good experience of housing work with a local authority; (*b*) must be a Registered Architect, have good general experience in design and construction in relation to municipal housing and other works, and capable of supervising large building contracts. The Council is unable to provide housing accommodation for either of these appointments. Further particulars and form of application available from the undersigned, which when completed must be returned as soon as possible.

GEORGE HOOPER,
Clerk and Solicitor.

Town Hall, Hayes, Middx. 3712

THE LONDON HOSPITAL, Whitechapel, E.1, requires JUNIOR ARCHITECTURAL ASSISTANT, salary £440 to £650 p.a. according to experience, plus London weighting. Post superannuable. Applications, stating age, present salary and brief particulars of experience, to be sent to the House Governor. Accommodation is available in Kensington if successful candidate is a woman. 9156

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE
OFFICE OF THE COUNTY ARCHITECT

Applications are invited for appointment in the grades shown below, the salary ranges of which are:—

A.P.T., III (£640—£765). Special (£690—£840).
A.P.T., IV (£710—£885).
A.P.T., V (£795—£970).
A.P.T., VI (£880—£1,080).

Applicants for these posts should be Registered Architects and Associate Members of the Royal Institute of British Architects, and have had good training and experience in the design and construction of modern buildings.

Extensive and interesting programme of first-class architectural work, with opportunities for taking responsibility and supervising work in progress.

HUBERT BENNETT, F.R.I.B.A.
County Architect's Office, Bishopgarth,
Wakefield. 9453

CITY OF LANCASTER

ASSISTANT QUANTITY SURVEYOR required. Varied programme of work. Housing accommodation, if required. A.R.I.C.S. (Q.S. Section). Permanent pensionable post. Salary, Grade V (£795 × £35—£970).

Applications to reach L. Lyons, B.Sc., City Engineer, Town Hall, Lancaster, by Monday, 30th April, 1956, stating age, qualifications, experience, etc., and names of two referees.

J. D. WADDELL,
Town Clerk.

Town Hall, Lancaster.
4th April, 1956. 9646

LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL

(*a*) TWO ASSISTANT ARCHITECTS, Grade A.P.T. V and VI (£795—£1,080), to work on major projects. Must be A.R.I.B.A. or Registered Architect.

(*b*) TWO ARCHITECTURAL ASSISTANTS, Grade A.P.T. II (£595—£675), Inter. R.I.B.A.

(*c*) ONE ELECTRICAL ENGINEERING ASSISTANT, Grade A.P.T. III (£640—£765). Should be capable of preparing drawings in connection with Electrical Installations in Schools. Higher National Certificate required.

In special circumstances consideration will be given to starting salary not more than two steps up the grade.

N.J.C. Conditions of Service. Canvassing will disqualify. Candidates must disclose in writing whether to their knowledge they are related to any member or senior officer of the Council.

Applications, giving age, qualifications, experience, present salary, and the names of at least two persons to whom reference can be made, to be sent not later than 24th April, 1956, to the County Architect, County Offices, Lincoln. 9561

WEST SUFFOLK COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

AREA PLANNING OFFICER for Bury St. Edmunds Area required. Salary within A.P.T. Grade IV (£710 × £35—£885). Applicants should have passed the Final Examination of the Town Planning Institute or hold a Diploma of a recognised school. N.J.C. service conditions; car allowance; post pensionable; medical examination.

Application forms obtainable from J. M. Gorst, M.T.P.I., A.M.I.Mun.E., County Planning Officer, Shire Hall, Bury St. Edmunds, to be returned by 28th April, 1956.

ALAN F. SKINNER,
Clerk of the County Council.
9560

BOROUGH OF FINCHLEY
HOUSING AND TOWN PLANNING DEPARTMENT

APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANT ON THE PERMANENT STAFF

Salary A.P.T. Grade VI (£880 × £40—£1,080), plus London weighting.

Applicants must be fully experienced Registered Architects, with a thorough knowledge of practical office work in housing and general architecture, and be used to control of staff and site supervision of contracts. Experience in design of multi-storey flats is highly desirable.

The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply, and medical examination required.

Applications, giving full particulars and accompanied by copies of two testimonials (or the names of two referees), to the Borough Housing and Town Planning Officer, The Avenue, Finchley, N.3, by 23rd April, 1956.

R. M. FRANKLIN,
Town Clerk.

Municipal Offices, Finchley, N.3. 9550

BIRMINGHAM REGIONAL HOSPITAL BOARD
ARCHITECTURAL STAFF APPOINTMENTS
(Donald A. Goldfinch, E.R.D., F.R.I.B.A., Dip.T.P., Architect to the Board.)

(*a*) SENIOR ASSISTANT ENGINEER (Heating and Ventilation), £920 × £30 (5) × £25 (1)—£1,095. Duties include design, preparation of plans, specifications and technical reports, supervision of new installations of heating and ventilation, boiler house plants and other hospital services. A.M.I.Mech.E. essential, A.M.I.H. and V.E. desirable.

(*b*) ASSISTANT ARCHITECTS (TWO), £640 × £25 (4) × £30 (4) × £35 (2)—£930, according to age and experience. Applicants must be registered architects, having passed requisite examinations. Experience of hospital planning and construction an advantage. Sound knowledge specifications essential.

(*c*) ASSISTANT ENGINEERS (TWO), £640 × £25 (4) × £30 (4) × £35 (2)—£930, according to age and experience. A.M.I.H.V.E. desirable.

(*d*) ARCHITECTURAL ASSISTANTS (TWO) (required for large new hospital project), £480 × £20 (7) × £25 (2)—£670. Point of entry according to experience, maximum £560. Inter. R.I.B.A. essential.

(*e*) JUNIORS (two Architectural and one Engineering): Male, £170 (aged 16), maximum £400 (aged 25); female, £165 (aged 16), maximum £330 (aged 25) (salary under revision equal pay to be implemented). Successful candidates expected to study for professional examinations.

All appointments superannuable.

Apply, naming three referees, to Secretary, 10, Augustus Road, Birmingham, 15, by 10th May. 9490

METROPOLITAN BOROUGH OF BATTERSEA
BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT

Applications are invited for the appointment of JUNIOR ASSISTANT BUILDING SURVEYOR, Grades A.P.T. II-III (£595—£765 per annum, plus London weighting). Commencing salary according to qualifications and experience. L.G. Supn. Act

Preference will be given to applicants who have passed the Intermediate Examination (Building Sub-Division) of the R.I.C.S. Previous experience in local government an advantage but not essential.

Application forms from the Borough Engineer & Surveyor, Town Hall, S.W.11. Closing date 7th May, 1956. 9660

ISLE OF ELY COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the undermentioned appointments on the Staff of the County Architect:—

(*a*) ASSISTANT ARCHITECT, A.P.T. IV (£710—£885).

(*b*) Three JUNIOR ARCHITECTURAL ASSISTANTS, A.P.T. I (£530—£610).

All posts are permanent, subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts and to a medical examination.

Intending applicants are to apply for forms, stating for which post they wish to apply, to the County Architect, County Hall, March, to whom they must be returned not later than 12th May, 1956.

R. F. G. THURLOW,
Clerk of the County Council.
9685

LANCASHIRE COUNTY COUNCIL

DEPUTY DIVISIONAL PLANNING OFFICER, salary £880—£1,080, required at the Blackpool Divisional Planning Office, capable of taking charge of the general administration of the office under the direction of the Divisional Planning Officer who is stationed at Lancaster. Candidates should possess a recognised qualification in architecture, civil engineering, surveying or planning. They should have had wide experience in the preparation of Development Plans and should possess a sound knowledge of the various acts, regulations and orders relating to Town and Country Planning. The successful applicant will be expected to own and use a car in the execution of his duties, for which a travelling allowance will be paid. Applications, stating age, qualifications, present appointment, experience and two referees, to the County Planning Officer, East Cliff County Offices, Preston, by 2nd May, 1956. 9684

CITY OF SHEFFIELD
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent appointments on the staff of the City Architect, Mr. J. L. Womersley, A.R.I.B.A., A.M.T.P.I.

(*a*) ARCHITECTURAL ASSISTANTS, Grade A.P.T. II (Salary scale £595—£675).
Candidates must have passed the R.I.B.A. Intermediate examination or its equivalent.

(*b*) ASSISTANTS IN TRAINING, Grade H.G.D.M. (Salary according to age within scale £180—£500).
Candidates must be or be prepared to become Probationers R.I.B.A. and will be required to submit drawings and sketches.

Applications, stating post applied for, age, education and training, qualifications and experience, present and past appointments (with dates and salaries), together with the names and addresses of two persons to whom reference may be made, should reach the undersigned by the 30th April, 1956.

JOHN HEYS,
Town Clerk.

Town Hall,
Sheffield, 1.
12th April, 1956. 9683

CITY OF NOTTINGHAM
ASSISTANT QUANTITY SURVEYOR
GRADE A.P.T. V (£795—£970 per annum)

Applications are invited for the above position in the City Engineer's Department.

Applicants should be Associates of the Royal Institution of Chartered Surveyors, or have extensive professional experience. The person appointed will be required to be responsible for all the Quantity Surveying work on individual major contracts. Commencing salary will be according to experience.

Housing accommodation is available.

Applications, on forms to be obtained from R. M. Finch, O.B.E., M.I.C.E., City Engineer and Surveyor, Guildhall, are to be returned to him ten days after the appearance of this advertisement.

R. M. FINCH,
City Engineer and Surveyor.
9655

BOROUGH OF LUTON
TECHNICAL STAFF

Applications invited for:

(*a*) SENIOR QUANTITY SURVEYING ASSISTANTS. Salary A.P.T. V (£795—£970). Fully qualified, preferably R.I.C.S., with experience of taking off, abstracting and billing for large contracts and settlement of final accounts.

(*b*) JUNIOR QUANTITY SURVEYING ASSISTANT. Salary, General Division to A.P.T. IV (£180—£885) according to qualifications and experience.

(*c*) ARCHITECTURAL ASSISTANT. Salary, General Division to A.P.T. IV (£180—£885) according to qualifications and experience.

N.J.C. Service Conditions. Application forms from Borough Architect, Town Hall, Luton, returnable by 12th May, 1956.

In the case of (*a*) housing accommodation may be available.

A. D. HARVEY,
Town Clerk.
9656

COUNTY BOROUGH OF NEWPORT

Applications are invited for the appointments of ASSISTANT ARCHITECTS in Grade IV (£710—£885). Further information and forms of application obtainable from the Borough Architect, Civic Centre, Newport, Mon, to whom they should be returned not later than Monday, 30th April, 1956. 9649

HOLLAND COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of QUANTITY SURVEYOR, A.P.T., Grade V (£795 to £970). Applicants should be Members of the R.I.C.S. (Quantity Surveying Sub-Division).

Application forms may be obtained from L. Barlow, Esq., A.R.I.B.A., County Architect, County Hall, Boston, Lincolnshire, and should be returned to the Clerk of the County Council not later than 28th May, 1956. 9526

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT. Salary scale £480×£20(7)×£25(2)—£670 per annum.

Applicants must have passed the Intermediate Examination of the R.I.B.A., and have had a sound architectural training, and some practical experience in a practising Architect's office is essential. The successful applicant will be engaged on the working drawings of a new hospital. Commencing salary dependent upon applicant's age and amount of experience since passing Intermediate Examination.

Applications, giving full particulars, including age, experience and the names of two referees, to the Secretary, Park Parade, Harrogate, within fourteen days. 9657

COUNTY BOROUGH
OF BURTON-UPON-TRENT
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of ASSISTANT QUANTITY SURVEYOR in Grade IV (£710—£885). Commencing salary in accordance with qualifications and experience. Appointment subject to satisfactory medical examination and to determination by one month's written notice on either side.

Housing accommodation, at a rent, will be provided for the successful candidate if required.

Applications, giving age, qualifications, full details of experience and names of two referees, should be submitted to the Borough Architect, Town Hall, Burton-upon-Trent, not later than Friday, 4th May, 1956.

H. BAILEY CHAPMAN,
Town Clerk.

Town Hall,
Burton-upon-Trent.
10th April, 1956. 9658

BOROUGH OF BATTERSEA
BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£595—£675 per annum, plus London weighting). Commencing salary according to experience. L.G. Superan. Act.

Previous local government experience not essential. The work of the department includes public buildings and multi-storey flats.

Application forms from the Borough Engineer & Surveyor, Town Hall, S.W.11. Closing date 7th May, 1956. 9661

THE NORTH WESTERN ELECTRICITY BOARD
SECOND ASSISTANT ENGINEER
(ARCHITECTURE & BUILDING)
SUB AREA ENGINEER'S DEPARTMENT, KENDAL

Applicants should have a wide experience in the contemporary design and detailing of new building works and in the administration of building contracts including the supervision and control of a small staff including a Clerk of Works. They should also be conversant with the repair and maintenance of existing property. Professional architectural qualifications will be an advantage.

Salary scale: £900×£25—£975 p.a.. Grade J.7. N.J.B. Conditions.

Applications to Sub-Area Manager, No. 6 Sub-Area, The North Western Electricity Board, Castle Green, Kendal by 28th April, 1956. 9667

NATIONAL COAL BOARD—N.W. DIVISION
ARCHITECTURAL ASSISTANT Grade II required for Divisional Architect's Office, Manchester. Experience in the preparation of working drawings under supervision with good standard of draughtsmanship necessary. Applicants must be of Intermediate Examination standard of the R.I.B.A. Salary according to qualifications and experience within the scale £520 × £20 — £615 per annum. Applications stating age, education, qualifications and experience to Staff Department, 40, Portland Street, Manchester, 1, by 14th May, 1956. 9699

METROPOLITAN BOROUGH OF CAMBERWELL
DEPARTMENT OF DIRECTOR OF HOUSING AND BOROUGH ARCHITECT

(*a*) SENIOR ASSISTANT ARCHITECT, A.P.T. V (£825—£1,000 inclusive of £30 London weighting), or VI (£910—£1,110 inclusive), or VII (£1,005—£1,230 inclusive).
(*b*) ASSISTANT ARCHITECT, A.P.T. IV/V (£740—£1,000 inclusive of £30 London weighting).
(*c*) JUNIOR ASSISTANT ARCHITECT, A.P.T. III (£670—£795 inclusive of £30 London weighting).

Qualification required: Posts (*a*) and (*b*) A.R.I.B.A., Post (*c*) R.I.B.A. Intermediate Examination or its equivalent followed by a minimum of one year in an architectural office.

Grade and commencing salary according to qualifications and experience. No housing provided. Work of department includes design and construction of public buildings, housing estates, including multi-storey construction. Application form from Town Clerk, Town Hall, S.E.5. Closing date 7th May, 1956. 9590

NATIONAL COAL BOARD
EAST MIDLANDS DIVISION
ARCHITECT'S DEPARTMENT, NOTTINGHAM

Applications are invited for the following appointments:

S.V. 503—ARCHITECTS, Grade II.
Salary £700×£30—£1,000.
Candidates should be Corporate Members of the R.I.B.A.

S.V. 504—ARCHITECTURAL ASSISTANTS, Grade I.
Salary £625×£25—£750 (exceptionally to £900).
Candidates should be of R.I.B.A. Intermediate Standard and have had not less than three years' subsequent practical experience.

Facilities are granted in certain circumstances to Assistants for part-time study at the Nottingham School of Architecture.

The point of entry into the salary scales of the respective grades will depend on the qualifications and experience of the applicant. Superannuation rights under Local Authority and certain other schemes are transferable.

The architectural work of the Department covers the design of Colliery Surface Buildings of all types required in the Division, including Workshops, Stores, Power Plants, Offices, Pithead Baths, Canteen, Medical Centres, Institutes, and Recreation Buildings.

Applications, stating age, education, qualifications, present appointment and salary, should be submitted within 14 days of publication to: The Staff Director, National Coal Board, East Midlands Division, Sherwood Lodge, Arnold, Notts. Envelopes and applications should be marked with the appropriate "S.V." reference number. Original testimonials should not be sent. 9610

COUNTY BOROUGH OF DONCASTER

Applications are invited for the following vacancies in the Borough Architect's Department:

(*a*) ASSISTANT ARCHITECT, A.P.T. IV (£710—£885).
Applicants must be Associates of the R.I.B.A. and have had at least five years' experience (including period of training).
(*b*) ARCHITECTURAL ASSISTANT, A.P.T. II (£595—£675).
(*c*) Two ARCHITECTURAL ASSISTANTS, A.P.T. I/II (£530—£675).
Applicants for (*b*) and (*c*) must have passed the Intermediate examination of the R.I.B.A. and have had experience in an architectural office.
(*d*) Two TEMPORARY ARCHITECTURAL ASSISTANTS, A.P.T. II/III (£595—£765).
Applicants must have passed the Intermediate examination of the R.I.B.A. and have had a good experience in an architectural office. Commencing salary will be in accordance with qualifications and experience.

The appointments will be subject to one month's notice on either side, to the National Joint Council's Scheme of Conditions of Service and to the terms of the Local Government Superannuation Acts, 1937 and 1953. The successful applicants will be required to pass a medical examination.

Forms of application may be obtained from the Borough Architect, 15, South Parade, Doncaster, to whom they should be returned by Monday, the 7th May, 1956.

H. R. WORMALD,
Town Clerk.

1, Priory Place,
Doncaster.
9th April, 1956. 9617

COUNTY BOROUGH OF DONCASTER

Applications are invited for the following vacancies in the Borough Architect's Department:

(*a*) Two ASSISTANT QUANTITY SURVEYORS, A.P.T. IV (£710—£885).
Applicants must be Associates of the R.I.C.S. and have had a good experience in the preparation of Bills of Quantities for all types of work, valuation for interim certificates and the settlement of final accounts.
(*b*) QUANTITY SURVEYING ASSISTANT, A.P.T. II (£595—£675). Applicants must have passed the Intermediate examination of the R.I.C.S. and be competent to assist in the preparation of Bills of Quantities and the settlement of accounts.

These appointments will be subject to one month's notice on either side, to the National Joint Council's Scheme of Conditions of Service and to the terms of the Local Government Superannuation Acts 1937 and 1953. The successful applicants will be required to pass a medical examination.

Housing accommodation will be available, if necessary, for (*a*) above.

Forms of application may be obtained from the Borough Architect, 15, South Parade, Doncaster, to whom they should be returned by Monday, the 7th May, 1956.

H. R. WORMALD,
Town Clerk.

1, Priory Place,
Doncaster.
9th April, 1956. 9618

BOROUGH OF DAGENHAM
SENIOR ASSISTANT ARCHITECT

Salary Grade A.P.T. V, *i.e.* £805 to £1,000 at age 26 and over.

Applicants must be Associate Members of the R.I.B.A. and have good general experience in the design of housing schemes and/or modern school buildings, and general municipal work.

Housing accommodation may be made available. Forms of application, etc., from the Borough Engineer. Closing date 3rd May, 1956.

KEITH LAUDER,
Town Clerk.

Civic Centre,
Dagenham. 9620

CITY OF MANCHESTER
HOUSING DEPARTMENT

Applications are invited from suitably qualified persons for the following appointments:—

ASSISTANT ARCHITECTS, A.P.T. IV, £710—£885 p.a. (Applicants must be registered Architects and Associates of the R.I.B.A.)

ARCHITECTURAL ASSISTANTS, "Basic Grade," £690—£840 p.a. (Applicants should have passed Parts I and II of the R.I.B.A. Final or Special Examination or their equivalent.)

ARCHITECTURAL ASSISTANTS, A.P.T. I, £530—£610 p.a. (Applicants should have passed the R.I.B.A. Intermediate Examination or its equivalent.)

The appointments offer scope for experience in large-scale central area development, and preference will be given to those with a keen interest in contemporary design.

Applications, giving particulars of age, qualifications and experience, together with the names of two referees, should be addressed to the Director of Housing, Town Hall, Manchester, 2, to be received not later than May 15th, 1956. 9670

COUNTY BOROUGH OF SOUTHAMPTON
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) SENIOR ASSISTANT ARCHITECT, Grade IV (£710—£885)
(*b*) JUNIOR ARCHITECTURAL ASSISTANT, Higher General Division (£180—£500).
(*c*) PLANNING ASSISTANT, Grade I (£530—£610).
(*d*) JUNIOR PLANNING ASSISTANT, Higher General Division (£180—£500).

Applicants for positions in the A.P.T. Division should possess the appropriate qualifications for Special Classes of Officers under N.J.C. Conditions of Service.

Applicants should state their housing needs.

Application forms from the Borough Architect, Civic Centre, Southampton. Closing date 28th April, 1956. 9679

NATIONAL COAL BOARD
N.W. DIVISION

CHARTERED QUANTITY SURVEYOR, Grade I or Grade II, required at Divisional Office, Manchester. Applicants should be competent to carry out all surveying duties without supervision, on contracts up to six-figure value, and able to control junior staffs. Salary for Grade I would be within the range £1,000×£35—£1,300 and for Grade II £700×£30—£1,000 and would be according to the age and experience of the selected candidate. Applications, giving details of age, education, experience and training, also present position and salary, should be submitted to Establishment Officer, 40 Portland Street, Manchester, 1, not later than 12th May, 1956. 9631

BOROUGH OF SWINDON
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments on the staff of the Borough Architect's Department, required for a large and varied development programme including housing schemes and industrial buildings in connection with the expansion of the town.

(*a*) ASSISTANT ARCHITECT, Grades A.P.T. IV/V (£710 to £970).
ASSISTANT ARCHITECT, Grade A.P.T. IV (£710 to £885).
Applicants must have passed the Final R.I.B.A. or equivalent examination and have appropriate experience.
(*b*) QUANTITY SURVEYOR, Grades A.P.T. IV/V (£710 to £970).
QUANTITY SURVEYOR, Grade A.P.T. IV (£710 to £885).
Applicants must have passed the Final R.I.C.S. or equivalent examination and have appropriate experience.

Housing accommodation is available.

Application, on forms to be obtained from the Town Clerk, Civic Offices, Swindon, must be returned not later than 1st May, 1956. 9630

UNIVERSITY COLLEGE
OF NORTH STAFFORDSHIRE

Applications are invited for the post of ASSISTANT ARCHITECT on the staff of the Buildings Officer and Architect. Salary in the scale £750×£30—£840 p.a. The post is superannuable. Duties may include work on buildings for teaching and research, students' hostels, staff residences, general purpose buildings and services. Applicants must be Registered Architects. Further particulars may be obtained from the Registrar, The College, Keele, Staffs, to whom three copies of application giving full details of age, qualifications, experience, etc., and names of three referees, should be sent within 10 days of publication of this advertisement. 9614

BOROUGH OF FINCHLEY
HOUSING AND TOWN PLANNING DEPARTMENT
JUNIOR ARCHITECTURAL ASSISTANT

Salary A.P.T. Grade I (£530—£610), plus London weighting.

Subject to satisfactory service the duration of the post will be approximately two years.

Preference will be given to those who have passed the R.I.B.A. Intermediate, and who have had practical office experience in housing work.

The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply and medical examination required.

Applications, stating age and full particulars of qualifications and experience, with names of two referees, to the Borough Housing and Town Planning Officer, The Avenue, Finchley, N.3, by 23rd April, 1956. R. M. FRANKLIN,
Town Clerk.

Municipal Offices, Finchley, N.3. 9561

THE METROPOLITAN BOROUGH OF HAMPSTEAD require in the Housing Architect's Section of the Borough Engineer's Department a CHIEF ARCHITECTURAL ASSISTANT, Grade A.P.T. V-VI (£795—£1,080, plus London weighting). He should be an Associate Member of the R.I.B.A. Medical examination required. No housing provided. Applications, suitably endorsed, giving names of three referees, to the Town Clerk, Town Hall, Haverstock Hill, N.W.3, by Thursday, 26th April, 1956. 9535

THE UNIVERSITY OF MANCHESTER
Applications are invited for two posts of LECTURER IN TOWN AND COUNTRY PLANNING. Applicants must hold a University Honours Degree; be corporate members of the Town Planning Institute; and have had appropriate practical experience. Salary on a scale rising to £1,350 per annum with membership of the F.S.S.U. and Children's Allowance Scheme. Initial salary according to qualifications and experience. Applications should be sent not later than 1st May, 1956, to the Registrar, the University, Manchester, 13, for whom further particulars and forms of application may be obtained. 9689

HARLOW DEVELOPMENT CORPORATION.
Frederick Gibberd, Architect Planner; Victor Hamnett, Executive Architect. Applications invited for post of ASSISTANT ARCHITECT, Grade IV (a) (£695×£30(4)×£20—£835 per annum) from suitably qualified Architects with experience in large scale housing and general work including preparation of working drawings and site supervision. Superannuation. Accommodation in due course in suitable cases. Detailed applications, giving names of two referees, to General Manager, "Terlings," Harlow, Essex, within seven days. 9622

COUNTY BOROUGH OF DERBY
BOROUGH ARCHITECT'S DEPARTMENT
(a) SENIOR ASSISTANT ARCHITECT, A.P.T. Grade IV (£710—£885 per annum).
(b) SENIOR ASSISTANT QUANTITY SURVEYOR, A.P.T. Grade V (£795—£970 per annum).
Commencing salary will be according to qualifications and experience.
Permanent superannuable appointments, subject to one month's notice and to medical examination. National Conditions of Service.
Applicants must state for which post they are applying.
Further particulars and application forms obtainable from and to be returned to The Borough Architect, The Council House, Corporation Street, Derby, not later than Monday, 7th May, 1956.
G. H. EMLYN JONES,
Town Clerk.
11th April, 1956. 9665

CITY OF BIRMINGHAM
EDUCATION COMMITTEE
COLLEGE OF ART AND CRAFTS
Principal:
Meredith W. Hawes, A.R.C.A., A.R.W.S., N.R.D.
SCHOOL OF INDUSTRIAL DESIGN
Applications are invited for the new post of LECTURER IN ENGINEERING in the School of Industrial Design. Candidates should hold a recognised qualification in Engineering and should have experience in the light metal industries with special reference to the production of consumer or domestic goods. He would be expected to teach workshop mathematics and to assist with production drawings. Although some sympathy with and knowledge of contemporary design would be an asset, the post is one for a Technical Lecturer. Some teaching experience would be a recommendation. Salary in accordance with Burnham Scale for Teachers in Establishments of Further Education—Men £965 by £25 to £1,065. Forms of application and further particulars may be obtained from the Principal, College of Art and Crafts, Margaret Street, Birmingham, 3 (s.a.e.). Closing date—19th May, 1956.
The successful candidate would be required to take up duties on the 1st September, 1956.
E. L. RUSSELL,
Chief Education Officer.
9608

LONDON COUNTY COUNCIL
QUALIFYING EXAMINATION FOR THE OFFICE OF DISTRICT SURVEYOR
An examination for certificates of proficiency to perform the duties of District Surveyor will be conducted in London in the week commencing 15th October, 1956. The minimum age limit for candidates is 25.
Possession of this certificate is necessary for appointment to positions as District Surveyor (Salary scales £1,500 to £2,900 a year) or as Assistant District Surveyor (Salary scale £1,184 to £1,353 + allowance of £56 a year).
Subsequent examinations will be held annually. Apply to The Architect to the Council (AR/ED/(TB), County Hall, Westminster Bridge, S.E.1, for application forms and further particulars. (690) 9668

LANCASHIRE COUNTY COUNCIL
PLANNING ASSISTANTS required at LANCASTER, LIVERPOOL, WIGAN and MANCHESTER, within £690—£885 dependent on qualifications and experience. Applicants should possess a qualification in architecture, surveying, engineering or town planning planning experience desirable but not essential. Applications, stating appointment applied for, giving age, qualifications, present appointment, experience, etc., and two referees, to the County Planning Officer, East Cliff County Offices, Preston, by 30th April, 1956. 9638

COUNTY OF ESSEX
ILFORD COMMITTEE FOR EDUCATION
Applications are invited for the following appointments in the Education Architect's Section of the Borough Engineer's Office:—
(a) Two ASSISTANT ARCHITECTS, Grade A.P.T. IV/VI (£710—£1,080 per annum, plus London weighting).
(b) One ARCHITECTURAL ASSISTANT, Grade A.P.T. II/III (£595—£765 per annum, plus the appropriate London weighting).
(c) One ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£595—£675 per annum, plus the appropriate London weighting).
(d) Two ARCHITECTURAL ASSISTANTS, Grade A.P.T. I (£530—£610 per annum, plus the appropriate London weighting).
(e) One TECHNICAL ASSISTANT, Grade A.P.T. I (£530—£610 per annum, plus the appropriate London weighting).
(f) One DRAUGHTSMAN, Higher General Division.
Applicants for posts (a) must be Associates of the R.I.B.A. and have considerable experience in the planning, designing and supervision of school buildings and have had administrative experience.
Applicants for post (b) should have passed the R.I.B.A. Intermediate Examination and have had not less than one year's experience in an architectural office.
Applicants for post (c) should have passed the R.I.B.A. Intermediate examination.
Applicants for post (d) must have had at least two years' drawing office experience in connection with school buildings.
Applicant for post (e) should have good knowledge of building construction and experience in dealing with minor alterations and general maintenance of school buildings.
Applicant for post (f) should be a neat and accurate draughtsman and have a knowledge of building construction.
The salary will be in accordance with the appropriate grades of the National Joint Council scale plus the London Area allowance.
There will also be paid such travelling and subsistence allowances as may be determined from time to time by the Essex County Council.
The posts are superannuable and subject to medical examination.
Applications should be made on a form to be obtained from and returned to the Borough Engineer & Surveyor, Town Hall, Ilford, together with copies of not more than three recent testimonials, within 14 days of the appearance of this advertisement. 9673

BRACKNELL DEVELOPMENT CORPORATION
Applications are invited from Corporate members of the R.I.B.A. for the post of ASSISTANT ARCHITECT, Grade IV, salary £710×£40(6)×£10(1)—£960.
Superannuation schemes, medical examination. Housing available in due course. Apply by 30th April, 1956, giving age, education and qualifications; experience and appointments held (with dates and salaries) and names of two referees, to the General Manager (A.A.), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 9637

CWMBRAN DEVELOPMENT CORPORATION
ASSISTANT ARCHITECT (£965×£50—£1,165).
Applications are invited for the above superannuable post in my department. The commencing salary within the scale will be in accordance with the qualifications and experience of the successful candidate.
The position is primarily in connection with the construction of the Town Centre of the New Town, and applicants must be Associates of the R.I.B.A. and have had experience in design, construction and layout of Shops, Offices and Commercial premises.
Housing accommodation will be made available in suitable cases or otherwise lodging expenses in accordance with the Corporation's scale will be paid to married men for a limited period.
Applications, stating age, experience, details of present and former employment (together with applicable salaries), and the names and addresses of two referees, must reach the undersigned by first post on 5th May, 1956.
J. C. P. WEST, A.R.I.B.A., M.T.P.I.,
Chief Architect.
Victoria Street, Cwmbran, Mon. 9489

URBAN DISTRICT COUNCIL OF URMSTON
ENGINEER AND SURVEYOR'S DEPARTMENT
Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT, Grade A.P.T. II.
Applicants should possess a sound knowledge of building construction and design, the preparation of specifications and plans, etc.
Applications, stating age, present and previous appointments, details of experience and the names and addresses of two referees, should be submitted to the undersigned, not later than 30th April, 1956.
L. WATKINS,
Clerk of the Council.
Council Offices,
Urmston, Manchester. 9669

COUNTY BOROUGH OF READING
Applications invited for the appointment of ASSISTANT ARCHITECT who has passed Parts I and II, R.I.B.A. Final or Special Final Examination or their equivalent. Salary range £690 × £30—£840 according to experience. Post permanent and appointment subject to N.J.C. conditions. Housing accommodation will be considered. Applications, stating age, qualifications and experience, together with names and addresses of two referees, to Borough Architect, P.O. Box 17, Town Hall, Reading, not later than 5 p.m., 2nd May, 1956. 9641

BOROUGH OF WORTHING
BOROUGH ENGINEER'S DEPARTMENT
JUNIOR ASSISTANT QUANTITY SURVEYOR
Applications are invited for the above appointment at a salary in accordance with Grade A.P.T. I of the National Joint Council's Scale of Salaries, *i.e.* £530—£610.
Preference will be given to applicants who have passed the First Examination of the R.I.C.S., or other approved examination. Candidates should be capable of abstracting and billing, and measurement of works on site.
The appointment will be subject to the National Scheme and Conditions of Service of Local Government Officers; to the Local Government Superannuation Acts; the passing of a medical examination, and one month's notice on either side.
Applications, endorsed "Junior Assistant Quantity Surveyor," stating age, status, qualifications, experience, present and past appointments with duties, and accompanied by copies of two testimonials, should be sent to the Borough Engineer, Town Hall, Worthing, not later than Monday, 7th May, 1956.
ERNEST G. TOWNSEND,
Town Clerk.
9636

BOROUGH OF WATFORD
APPOINTMENT OF CHIEF ASSISTANT QUANTITY SURVEYOR
Applications are invited for the above post on Grade A.P.T. V (£795—£970).
Applicants should be accustomed to the preparation of Bills of Quantities, Specifications, Estimates and settlement of accounts in connection with building work. The holding of a professional qualification will be an advantage.
Consideration will be given to the provision of housing accommodation for the successful applicant.
Forms of application returnable on 27th April, 1956.
F. C. SAGE,
Borough Engineer, Surveyor and Architect.
Town Hall, Watford.
6th April, 1956. 9635

CITY OF SALFORD
CITY ENGINEER & SURVEYOR'S DEPARTMENT
Applications are invited from persons having appropriate qualifications and experience for the undermentioned posts in the office of the City Engineer & Surveyor (G. A. McWilliam, B.Sc., A.M.I.C.E., A.R.I.C.S., M.I.Mun.E.).
(a) ASSISTANT ENGINEER, Grade A.P.T. IV (£710—£885).
(b) ENGINEERING ASSISTANT, Grade A.P.T. II (£595—£675).
(c) JUNIOR ENGINEERING ASSISTANT, Grade A.P.T. I (£530—£610).
(d) TOWN PLANNING ASSISTANT, Grade A.P.T. IV (£710—£885).
(e) TOWN PLANNING ASSISTANT, Grade A.P.T. II (£595—£675).
(f) ARCHITECTURAL ASSISTANT (Three), Grade A.P.T. IV (£710—£885).
(g) JUNIOR ARCHITECTURAL ASSISTANT (Two), Grade A.P.T. I (£530—£610).
(h) ASSISTANT QUANTITY SURVEYOR (Two), Grade A.P.T. IV (£710—£885).
(i) ASSISTANT QUANTITY SURVEYOR (Temporary), Grade A.P.T. III (£640—£765).
Applicants should hold at least the minimum qualification appropriate to the post as set out in the National Scheme of Conditions of Service. Facilities for professional training are given to holders of junior posts and the work of the Department affords experience in a wide variety of municipal engineering and building projects.
Appointments will be subject to the provisions of the Local Government Superannuation Acts, the National Scheme of Conditions of Service and the passing of a medical examination.
Applications, stating age, qualifications, and details of experience, together with the names of two referees, should be sent to the City Engineer and Surveyor, Town Hall, Salford, 3, Lancs, to arrive not later than Monday, 14th May, 1956. Applicants must indicate by reference letter and designation the post for which they are applying.
R. RIBBLESDALE THORNTON,
Town Clerk.
Town Hall,
Salford, 3, Lancs. 9643

MIDDLESEX COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT
Required (a) SENIOR PLANNING ASSISTANT, A.P.T. IV (£710 to £885 p.a. plus London weighting). Appointment will be made at appropriate point on scale according to qualifications and experience in architecture or planning. (b) DRAUGHTSMAN, A.P.T. I (£530 to £610 plus London weighting). Duties include preparation of plans and maps; preference given to students of T.P.I. Both posts: established, pensionable, subject to medical assessment and prescribed conditions. Application forms from County Planning Officer, 10, Gt. George Street, S.W.1, returnable by 7th May (quote S.685A.J.). Canvassing disqualifies. 9652

LANCASHIRE COUNTY COUNCIL
SECTIONAL PLANNING OFFICER within A.P.T. Grades V-VI (£795—£1,080) required at PRESTON. Candidates should be Associate Members of the Town Planning Institute, and preferably A.R.I.B.A., A.R.I.C.S., A.M.I.C.E. or A.M.I.Mun.E. Experience in Development Plan and Town Map preparation and a thorough knowledge of Town & Country Planning legislation are essential. Applications, giving age, qualifications, present appointment, experience, etc., and two referees, to County Planning Officer, East Cliff Offices, Preston, by 2nd May, 1956. 9651

LEYTON COMMITTEE FOR EDUCATION
APPOINTMENT OF
JUNIOR ARCHITECTURAL ASSISTANT

Applications are invited for the permanent appointment of a JUNIOR ARCHITECTURAL ASSISTANT, A.P.T. Grade I, £560—£640 per annum including London weighting (£30) which is reduced according to scale where age is less than 26.

The successful applicant will be employed by the Essex County Council and will work in the School Architect's Section of the Borough Engineer and Surveyor's Department, Town Hall, Leyton, London, E.10.

Alternate Saturday mornings free of duty and canteen facilities available.

Details and forms of application from the Borough Education Officer, Kirkdale Road, Leytonstone, E.11, to whom they should be returned by Wednesday, 9th May, 1956.

D. J. OSBORNE,
Town Clerk.

Town Hall,
Leyton, E.10.
7th April, 1956. 9648

MONMOUTHSHIRE COUNTY COUNCIL
APPOINTMENT OF ARCHITECTURAL STAFF

(1) SENIOR ARCHITECTURAL ASSISTANT, Grade A.P.T. V, commencing salary £830 to £970 per annum.

(2) ARCHITECTURAL ASSISTANTS, Grade A.P.T. IV, commencing salary £815 to £885.

Forms of application, particulars of post and conditions of service can be obtained from the undersigned.

Applications, together with copies of three testimonials, must be forwarded to the County Architect, Queen's Hill, Newport, Mon, not later than Saturday, 28th April, 1956.

VERNON LAWRENCE,
Clerk of the Council.

County Hall,
Newport, Mon. 9647

The Prison Commissioners require three temporary ARCHITECTURAL DRAUGHTSMEN, male or female, and three temporary ENGINEERING DRAUGHTSMEN, male or female. Salary (men) £463 10s. at age 21 rising to £635 at age 28, then to £725; (women) £463 10s. at age 21 rising to £622 at age 28, then to £656. Starting pay according to age up to 28, then according to age and qualifications. The women's scale is subject to the scheme for the introduction of equal pay into the non-industrial Civil Service.

Hours of duty are 44. Annual leave 24 days rising to 28 days after three years, plus nine days public and privilege holidays. Qualifications required: Architectural draughtsmen, recognised training with a good general knowledge of building, construction and surveys; engineering draughtsmen should preferably have obtained educational training to Ordinary National Certificate in mechanical or electrical engineering course standard, or the equivalent in heating and ventilating course.

Regulations and application forms from the Establishment Officer, E.126/2/20, Prison Commission, Horseferry House, Dean Ryle Street, London, S.W.1, to be returned by 29th May, 1956. 9688

UNIVERSITY OF OXFORD

Applications are invited for the following appointment:—

ARCHITECTURAL ASSISTANTS, of about Intermediate standard, with some knowledge of modern building construction. Salary £530.

Varied and interesting work. Generous leave. Apply for further particulars, stating age, experience and training, to the Surveyor to the University, 5, South Parks Road, Oxford. 9366

COUNTY BOROUGH OF BARNSLEY
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT
APPOINTMENT OF SENIOR ASSISTANT QUANTITY SURVEYOR

Applications are invited for the appointment of SENIOR ASSISTANT QUANTITY SURVEYOR, Grades A.P.T. V-VI (£795—£1,080). The commencing salary will be fixed at a point within this range according to qualifications and experience.

Applicants should be A.R.I.C.S. and have had considerable experience in preparing Bills of Quantities and settling Contractors' accounts. The successful candidate will be in charge of the Quantity Surveying Section and the post offers scope for gaining further experience in the profession.

Housing accommodation will be provided if necessary and 50 per cent. of removal transport expenses will be paid in approved cases.

The appointment will be subject to (*i*) the Scheme of Conditions of Service for A.P.T.C. Staff; (*ii*) any other general conditions of employment in operation within the Corporation from time to time; (*iii*) one month's notice on either side; and (*iv*) to the Local Government Superannuation Acts for which purpose the successful candidate will be required to pass a medical examination.

Applications, stating age, present and previous appointments with dates, qualifications, experience, etc., together with the names of two persons for reference, should be addressed to the Borough Engineer, Town Hall, Barnsley, to arrive by Friday, 4th May, 1956.

Canvassing will disqualify.

A. E. GILFILLAN,
Town Clerk.

Town Hall,
Barnsley.
April, 1956. 9687

COUNTY BOROUGH OF HALIFAX
BOROUGH ENGINEER'S DEPARTMENT

Applications are invited for the following appointments:

ASSISTANT ARCHITECT (General). Salary £690—£840 (Special Scale).

ASSISTANT ARCHITECT (General). Salary £595—£675 (A.P.T. II).

Applications, stating age, education and training, qualifications, present and past appointments (with dates and salaries) and experience, accompanied by copies of two recent testimonials, should reach me Saturday, 5th May, 1956.

RICHARD de Z. HALL,
Town Clerk.

Town Hall,
Halifax. 9650

PUBLIC SERVICE OF TASMANIA

Applications are invited from fully qualified ARCHITECTS for appointment to the staff of the Public Works Department at Hobart, Tasmania.

Salary range £A1,164—£A1,589 per annum.

Appointees and their families will be nominated for assisted passages under the Commonwealth Government Migration Scheme. They will be appointed to the headquarters staff of the Department and will be required to prepare sketch designs, working drawings, details and specifications of public buildings of all types.

Applications in duplicate, giving full particulars of professional qualifications and experience, and personal details, should be lodged with the Agent-General for Tasmania, 457, Strand, London, W.C.2. 9686

URBAN DISTRICT COUNCIL OF EAST BARNET

Applications are invited for the following permanent appointments:—

(*a*) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV (£710 to £885 per annum).

(*b*) ASSISTANT ARCHITECT, Grade A.P.T. III (£640 to £765 per annum).

(*c*) ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£595 to £675 per annum).

(*d*) DRAUGHTSMAN (ARCHITECTURAL), Grade A.P.T. I (£530 to £610 per annum).

All salaries will be increased by London weighting of £20 to £30 per annum, according to age.

Housing accommodation will be provided for appointments (*a*) and (*b*) if necessary.

Conditions of Appointment and Forms of Application, returnable by 7th May, 1956, may be obtained from the Engineer and Surveyor, Town Hall, Station Road, New Barnet, Hertfordshire. 9503

BOROUGH OF TAUNTON
ARCHITECT'S DEPARTMENT

APPLICATIONS are invited for the posts of:

(*a*) ASSISTANT ARCHITECT. Salary (Special Grade) £690—£840.

(*b*) QUANTITY SURVEYING ASSISTANT (Grade II) £595—£675.

in the Borough Housing Architect's Department.

The appointments will be subject to the National Scheme of Conditions of Service and the provisions of the Local Government Superannuation Acts. Preference will be given to applicants for post (*a*) who have passed the Final examination of the Royal Institute of British Architects, and to applicants for post (*b*) who have passed the Intermediate examination of the Royal Institute of Chartered Surveyors. Consideration may be given to the provision of housing accommodation if required.

Applications, together with the names of two referees, should be submitted to C. Bacon, F.R.I.B.A., Borough Housing Architect, Flook House, Station Road, Taunton, by not later than 24th April, 1956.

K. A. HORNE,
Town Clerk.

Municipal Buildings,
Taunton. 9593

COUNTY BOROUGH OF BURNLEY

Applications are invited for the following appointments in the Borough Engineer and Surveyor's Department:

(*a*) Two SENIOR ARCHITECTURAL ASSISTANTS, Grade IV (£710 × £35—£885).

(*b*) Two QUANTITY SURVEYING ASSISTANTS, Grade II (£595 × £20—£675).

Applicants for appointment (*a*) must hold appropriate qualifications and have had considerable experience in municipal building projects (including educational buildings).

Applicants for appointment (*b*) should have a sound knowledge of building construction and experience in the preparation of quantities and measurement of work is essential.

Forms of application may be obtained from the Borough Engineer, 22/24, Nicholas Street, Burnley, and should be returned to him not later than Saturday, 5th May, 1956.

C. V. THORNLEY,
Town Clerk.
9594

AIR MINISTRY, Works Designs Branch, requires in London and Provinces ARCHITECTURAL ASSISTANTS experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings.

Salaries up to £850 p.a. (men) and £752 (women). Starting pay dependent on age, quals. and experience.

Paid overtime. Long term possibilities with promotion and pensionable prospects, 4 weeks' leave a year. Liability for overseas service. Normally natural born British subjects. Write stating age, quals., employment details, inc. type of work done, to any employment exchange, quoting Order No., Borough 1000. 9607

DERBYSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

Applications are invited for the appointment of an ASSISTANT to take charge of the Drawing Office. The work includes the making, mounting and presentation of maps and diagrams for statutory purposes and public exhibition, and of models to illustrate planning problems and proposals. Experience in a Planning Department will be considered an advantage but is not essential. Salary will be in accordance with Grade A.P.T. II (£595—£675) or A.P.T. III (£640—£765) according to qualification and experience.

Applications, together with full particulars of experience and one testimonial and the names of two referees, should reach the County Planning Officer, 8a, Bold Lane, Derby, by April 30th. 9599

RESEARCH FELLOWSHIPS TENABLE AT THE BUILDING RESEARCH STATION

Applications are invited from Architects for a Senior and a Junior RESEARCH FELLOW to work as members of a team studying the design and construction of factory buildings. The Fellowships will be for a period of two years, with a possibility of extension to a third year.

Candidates for the Senior Fellowship should be Associates of the R.I.B.A. and have additional experience, preferably in a field related to the investigation. Total emoluments up to £1,000 per annum depending on qualifications. Candidates for the Junior Fellowship should have qualifications in architecture and should show evidence of ability in draughtsmanship and design. Salary up to £750 per annum.

Applications, which should give the names of two referees, should be addressed to Building Research Station, Garston, Watford, Herts, marked "For the attention of the Secretary, Factories Building Research Committee," to be received not later than 30th April, 1956. 9600

EASTERN REGIONAL HOSPITAL BOARD, SCOTLAND

Applications are invited for the following appointments:

(*a*) ARCHITECTURAL ASSISTANT. Salary £480—£670.

(*b*) ASSISTANT QUANTITY SURVEYOR. Salary £640—£930.

Applicants for post (a) must have passed the Intermediate Examination of the R.I.B.A., and for post (*b*) must be Corporate Members of the R.I.C.S. with experience of the Scottish Mode of Measurement.

The starting salary for both posts may be above the minimum of the scale according to age and experience at full professional standard.

Applications, stating age, qualifications, experience and the names and addresses of three referees, should be sent to the Secretary, Eastern Regional Hospital Board, "Braeknowe," 430, Blackness Road, Dundee, within 14 days from the date of this advertisement. 9602

ARCHITECTURAL ASSISTANTS and ARCHITECTURAL DRAUGHTSMEN required by KENYA GOVERNMENT P.W.D. for one tour of 36/45 months in the first instance. Outfit allowance £40. Liberal leave on full salary. Free passages. Salary scales (including Inducement pay and temporary Cost of Living allowance): Architectural Assistants, £838 rising to £1,360 a year; Architectural Draughtsmen, £772 rising to £1,280 a year. Commencing salary according to experience. Appointment either on contract (with gratuity of 13½ per cent. of total substantive salary drawn) or on probation to the pensionable establishment. Candidates, over 24, must be capable of working-up sketch designs and preparing full working drawings for various types of Government buildings ranging from small domestic work to large multi-storeyed buildings. Candidates for Architectural Assistants must have passed the Intermediate examination of the R.I.B.A. and candidates for Architectural Draughtsmen must have had at least four years' actual experience in an Architect's Office and have a sound knowledge of building construction. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience, and quote M2B/40529/AG. 9606

COUNTY BOROUGH OF HUDDERSFIELD
BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT

Applications are invited for the following appointments:

(*a*) ASSISTANT ARCHITECT, Grade A.P.T. V, £795—£970.

(*b*) QUANTITY SURVEYOR, Grade A.P.T. V, £795—£970.

For post (*a*) preference will be given to Associate Members of the Royal Institute of British Architects, and for post (*b*) to members of the Royal Institute of Chartered Surveyors.

The posts are subject to the National Scheme of Conditions of Service, as adopted by the Council, and to medical examination.

Housing accommodation will be provided, if required.

Applications, with the names of two referees, should reach S. M. Richmond, F.R.I.B.A., A.M.T.P.I., Borough Architect and Planning Officer, High Street Buildings, Huddersfield, not later than the 30th April, 1956.

Canvassing directly or indirectly will disqualify.

HARRY BANN,
Town Clerk.

Town Hall,
Huddersfield. 9604

ARCHITECTURAL ASSISTANTS (unestablished) required by Stepney M.B.C. Salary up to £915 p.a. according to qualifications and experience. Apply Borough Engineer, 227, Commercial Road, E.1. 9694

THE UNIVERSITY OF LIVERPOOL

Applications are invited for the following posts in the Department of Civic Design:

(i) LECTURER, with specialist qualifications in Landscape Design, at an initial salary within the range £750—£1,200 per annum, according to qualifications and experience.

(ii) TEMPORARY LECTURER for Session 1956-57, at a salary within the range £650—£1,100, according to qualifications and experience.

Applications, stating age, academic qualifications and experience, together with the names of three referees, should be received not later than 15th May, 1956, by the undersigned, from whom further particulars of the conditions of appointment may be obtained.

STANLEY DUMBELL,
Registrar.
9597

THE UNIVERSITY OF MANCHESTER

Applications are invited for the post of LECTURER IN ARCHITECTURE. Applicants must have had not less than three years' practical office experience. Salary on a scale rising to £1,350 per annum with membership of F.S.S.U. and Children's Allowance Scheme: initial salary according to qualifications and practical experience. Applications should be sent not later than May 9th, 1956, to the Registrar, the University, Manchester, 13, from whom further particulars and forms of application may be obtained. 9588

COUNTY LONDONDERRY EDUCATION COMMITTEE
ARCHITECT'S DEPARTMENT

Applications are invited for the following positions:

(*a*) ARCHITECTURAL ASSISTANT. Applicants must have passed the Intermediate R.I.B.A. Examination. Salary within the range £443—£725, according to qualifications and experience.

(*b*) DRAUGHTSMAN. Applicants should have at least two years' experience in an Architect's office. Salary within the range £250×£26—£425, according to qualifications and experience.

Application forms, obtainable from the Director of Education, Education Office, New Row, Coleraine, should be returned not later than 8th May, 1956. 9664

Architectural Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

ARCHITECTURAL ASSISTANT required. Good Draughtsman with office experience and knowledge of building construction. Apply stating salary required to Caroe & Partners, 15, Great College Street, Westminster. 9438

ARCHITECTURAL ASSISTANT required, up to Intermediate standard, Westminster office. Pension and Bonus Schemes. Five-day week. Write, stating experience, age, and salary required, to Box 9271.

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, MANCHESTER.

APPLICATIONS are invited for the following appointments:—

(*a*) SENIOR ASSISTANT ARCHITECTS, with experience of work on commercial and industrial projects.
(Salary range £820 to £975 per annum.)

(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings from preliminary details.
(Salary range £550 to £820 per annum.)

There is a five-day week in operation, and both appointments offer prospects of upgrading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3871

CO-OPERATIVE WHOLESALE SOCIETY, LTD., ARCHITECT'S DEPARTMENT, LONDON.

ASSISTANT ARCHITECTS, WORKER-UP, AND SHOP FITTING DRAUGHTSMAN. Applications are invited from suitably qualified persons. Salary on a scale £485—£945 inclusive of L.W., with placing according to age, qualifications and experience. The posts are superannuable, subject to medical examination. Five-day week in operation. Applications, stating age, experience, qualifications and salary required, to—W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 99, Leman Street, London, E.1. 2824

ADAMS, HOLDEN & PEARSON require ARCHITECTURAL ASSISTANTS immediately. Write giving particulars of experience and salary required to 38, Gordon Square, W.C.1. 9340

ARCHITECTURAL ASSISTANTS urgently required at Welwyn Garden City, to work on a variety of industrial, commercial and housing projects. Applicants are requested to state whether or not housing accommodation is required. Please apply with full details of age, training and architectural experience, to Chas. W. Fox, F.R.I.B.A., 22, Parkway, Welwyn Garden City, Herts. 9336

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, BIRMINGHAM.

APPLICATIONS are invited for the following appointments in a newly formed Branch Office. Interesting and varied commercial and industrial projects.

(*a*) SENIOR ASSISTANT ARCHITECT, with experience in Store and Shop Design.
(Salary range £820 to £975 per annum.)

(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings and details from preliminary sketches.
(Salary range £550 to £820 per annum.)

Both appointments offer prospects of upgrading.

Applications, stating age, experience, qualifications, and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3872

GOLLINS, MELVIN, WARD & PARTNERS, 15, Manchester Square, W.1, have vacancies for ARCHITECTURAL ASSISTANTS at Intermediate Standard or recently qualified, keen to work on a varied programme. Good working drawings essential, five-day week, quarterly bonuses. Apply by writing or telephone Welbeck 9991. 9316

SENIOR ARCHITECTURAL ASSISTANT required by United Dairies Ltd. Applicants to state age and experience in the preparation of surveys, sketch plans and working drawings, and be able to supervise work in progress. Apply in writing, stating qualifications and salary required, to Chief Architect, United Dairies Ltd., 31 St. Petersburgh Place, W.2 9060

ARCHITECTURAL ASSISTANT (male or female) required in Architect's Department of London Brewery Company. Must be good draughtsman. Write stating age, experience, salary required. Box 9581.

ARCHITECTURAL ASSISTANTS required for small West End Office. Good salaries. Write to Box 9580.

ARCHITECTURAL DRAUGHTSMAN urgently required by firm of Architects practising in Woking and Haslemere, Surrey. Applicant should have comprehensive knowledge of building construction, and be able to prepare working drawings with minimum of supervision. Salary £500—£600.—Apply Percy, Hopkins & Partners, 19, Commercial Road, Woking. Tel. 4730. 9629

ARCHITECTURAL ASSISTANTS.—We have a vacancy in the Architect's Section of our Plant Department for which we invite applications from men who are of at least Intermediate R.I.B.A. standard and have completed their National Service.—Write, giving full details of age, experience, and training to the Personnel Officer, Ericsson Telephones, Ltd., Beeston, Nottingham. 9626

RAMSEY, MURRAY, WHITE & WARD have vacancies for:—

(*a*) QUALIFIED ARCHITECT, with at least 12 months' office experience since qualifying.

(*b*) ARCHITECTURAL ASSISTANT, advanced student R.I.B.A., with at least 12 months' office experience.

Salary to be agreed on the basis of qualifications and experience.

Apply 32, Wigmore Street, London, W.1, or telephone WELbeck 1409. 9625

SCHERRER & HICKS, of 19, Cavendish Square, W.1 (Tel. Museum 1105), require immediately a number of ARCHITECTURAL ASSISTANTS with imagination and initiative. The work is varied and covers Research Laboratories, Offices, Housing and Schools. 5-day week. Salary by arrangement. 9621

ARCHITECT'S Department of the Milk Marketing Board require an ASSISTANT, capable of preparing working drawings and details and able to make field surveys and surveys of existing buildings. The salary will start at £600 per annum, and preference will be given to applicants who have already passed their Intermediate R.I.B.A. Examination.—Apply, stating age and previous experience, to the Establishment Officer, Milk Marketing Board, Thames Ditton, Surrey. 9619

ARCHITECTURAL ASSISTANTS required, of Intermediate R.I.B.A. standard, for work on contemporary industrial buildings. Good salary and plenty of opportunity for initiative. London office.—Write, giving details of salary, experience, to Howard, Souster & Fairbairn, 81, Piccadilly, W.1. 9613

REGENT OIL COMPANY, LTD.,

have the following vacancies at their London office:—

(1) ASSISTANT ARCHITECTS. Applicants should be fully qualified, have at least 3 years' practical experience, be able to progress contract documents and supervise site work.

(2) ARCHITECTURAL ASSISTANTS. Applicants should have passed the R.I.B.A. Intermediate Examination and should have sound practical experience.

The work includes industrial buildings, offices, canteens, laboratories, garages and service stations throughout the country. A thorough working knowledge of construction and design is essential. First-class working conditions in new and modern premises. Posts are pensionable. Three weeks' annual holiday. Luncheon vouchers.—Applications, which must be in writing, stating age, qualifications, experience, and salary required, to Personnel Officer, 117, Park Street, London, W.1. 9611

ASSISTANTS required to work on a University Library.—Apply Easton & Robertson, 53, Bedford Square, W.C.1. 9624

SPICERS, LTD., require ARCHITECTURAL ASSISTANT for a temporary appointment of minimum 12 months. Intermediate standard R.I.B.A. essential, A.R.I.B.A. desirable. 5-day week. Salary according to qualifications and experience.—Apply to Personnel Adviser, 19, New Bridge Street, E.C.4. 9612

SOUTH AFRICA.—Vacancies in substantial contemporary firm, with offices in Windhoek and Cape Town, for at least TWO ARCHITECTURAL ASSISTANTS. Salaries between £750 and £1,000 p.a., fare advanced on repayment, three weeks' annual leave on full pay, plus ten days' statutory holidays, bonus. No family accommodation.—Fuller details, quoting OSS.98/2, from O.T.S., 5, Welldon Crescent, Harrow, Middx. 9609

SENIOR ARCHITECT required for work in South Wales on the design and co-ordination of industrial projects. Candidates must be qualified A.R.I.B.A.—Please write, giving details of previous experience and salary required, to Box No. 417, Glovers Advertising, Ltd., 351, Oxford Street, London, W.1. 9693

ASSISTANT required for general practice in Dartford. Salary according to experience. Good prospects.—Please reply with full details to Box 9680.

ARCHITECTS IN CANADA.—Prominent Toronto firm requires young ARCHITECTS for contemporary office.—Write, stating qualifications and experience. Interview will be arranged in London with Principal. 9682

ARCHITECTURAL ASSISTANT, of up to Intermediate standard, required by Westminster firm of Architects. Lady Assistant would be considered. Salary £300—£600 p.a., according to experience.—Apply Box 9690.

RESIDENT ARCHITECT required, to supervise contract work in London and the Home Counties, in connection with the Modernisation Plan. Successful applicant will be attached to the office of the Architect, Eastern Region, King's Cross Station. Applicants should have had experience of site supervision and should preferably be qualified. Salary range £770 to £835. 5-day week, concessionary rail travel, permanency with membership of superannuation scheme after probationary period.—Apply in writing, giving particulars of age, experience, and any qualifications possessed, to Chief Civil Engineer, Eastern Region, British Railways, King's Cross Station, London, N.1, quoting Post No. 1.281. 9603

ARCHITECTURAL ASSISTANT required by London Architects, W.C.1. Progressive post, with opportunities for individual responsibilities and experience.—Apply in writing, stating age, experience, and salary required, to Box 9633.

SENIOR experienced ASSISTANT required by London firm of Architects. Medium size practice, with a wide variety of good class work. Initiative and individual responsibility encouraged.—Please apply in writing, giving full details, to Box 9634.

DEVON.—ARCHITECTURAL ASSISTANT, in the salary range £350 to £450, required immediately for country practice. Applications for temporary post considered, but permanent appointment preferred. Work mainly domestic. Appointment leading to responsible position for right type.—Send full particulars to Alec H. Joy, M.A., B.Arch., A.R.I.B.A., Victoria Place, Kingsbridge. 9662

ARCHITECT'S ASSISTANTS required. Senior A.R.I.B.A. preferred, salary £800. Junior, Intermediate standard, salary £550—£600, for W.C.1.—Write, stating full particulars, to Box 9659.

ARCHITECTURAL ASSISTANTS required, to work in Wimbledon. Commencing salary £600 to £750 p.a., according to age and experience. 5-day week, pension scheme, luncheon vouchers.—The Coniston Company, Eagle House, High Street, Wimbledon, S.W.19. WIMbledon 8521. 9653

ARCHITECTURAL ASSISTANTS, Intermediate standard, required for work in Architect's office on development and construction of factory extensions, also on proposed large new factories in North-East London area. Positions offered are permanent with good opportunities, and are pensionable. Modern welfare amenities.—Apply Personnel Superintendent, The Edison Swan Electric Co., Ltd., Cosmos Works, Brimsdown, Enfield, Middlesex. 9605

QUALIFIED ASSISTANT required immediately.—Apply in writing, stating age, details of practical experience and when available, to S. P. Jordan, A.R.I.B.A., M.S.I.A., Dip. T.P., 11, King's Road, Sloane Square, S.W.3. 9596

LIONEL BRETT & KENNETH BOYD have vacancy for one ASSISTANT, Inter-Final, to work on school programme.—Write, giving details of experience in post-war school construction, age, and salary required, to 16, Brendon Street, W.1. 9595

EXPERIENCED ARCHITECTURAL ASSISTANTS required for contemporary office. Salary according to experience. C. H. Hilsom, 10, Lower Grosvenor Place, S.W.1. VIC. 4304. 9318

MANCHESTER REGIONAL HOSPITAL BOARD invite applications for the posts of (*a*) ARCHITECTURAL ASSISTANT, and (*b*) QUANTITY SURVEYING ASSISTANT, in the Architectural Department of the Board's Headquarters in Cheetwood Road, Manchester, 8, at a salary according to qualifications and experience of either (i) £480, rising to £670 a year with provision for a commencing salary not exceeding £560, or (ii) £640, rising to £930 a year. National Health Service conditions and superannuation.—Applications, stating age, qualifications and experience, and names and addresses of not more than three referees, to be sent to the Secretary of the Board as soon as possible. 9654

ARCHITECT'S ASSISTANT required by a Manchester firm of Architects. R.I.B.A. Intermediate standard or beyond, with some previous office experience.—Write, stating age, experience, qualifications and salary required, Box 9666.

ARCHITECTURAL ASSISTANT required, up to Intermediate standard. Office experience essential.—Write, giving age, present salary and full details of experience, to Bostock & Partners, Central Hall Buildings, Station Approach, Southall, Middlesex. 9663

A VACANCY occurs for a first-class, fully qualified and experienced ASSISTANT in a large architectural organisation in the North of England, engaged in carrying out many large and interesting schemes. Applicants must be capable designers, with experience of good class work. The post offers good prospects for advancement for a suitable man. Salary would be arranged commensurate with experience and ability. Copies of two recent testimonials should be enclosed.—Box 9672.

ARCHITECT'S ASSISTANT, with good office experience. Alternate Saturdays, overtime paid, superannuation optional. Salary based on A.P.T. Grades.—Apply in writing, giving age, experience, present position, with names of last two employers as referees, to Eberlin & Darbyshire, F./F.R.I.B.A., 3, College Street, Nottingham. 9671

ARCHITECTS' Department of a large multiple retail concern, with office in London, require ARCHITECTURAL ASSISTANTS (Intermediate standard). There is a pension scheme and a 5-day week in operation. Dining room available for the use of staff. Applicants should write giving particulars of age, experience, and salary required. Box 9405.

ARCHITECTURAL ASSISTANTS required for St. Albans office for work on School, Commercial and Housing projects. Should be good draughtsman with contemporary outlook. Good Salaries. Write to Box 9579.

ARCHITECTURAL ASSISTANT required in busy London office with varied practice. Good salary and prospects for suitable applicant. 5-day week. Write, giving particulars of age, qualifications, experience, etc., to Box 775, c/o 7, Coptic Street, W.C.1. 9393

"THE ARCHITECTS' JOURNAL" requires a full-time DRAUGHTSMAN to assist in the preparation of Information Sheets and Working Details. First class draughtsmanship, knowledge of building construction and a keen interest in the compilation of technical information. Write to the Editor (Information Sheets), 9, Queen Anne's Gate, S.W.1, stating age, architectural training, and experience. 913

ARCHITECTURAL ASSISTANT required for busy office. Good conditions, interesting commercial and industrial work. Apply, stating age, experience and salary, and enclosing copies of testimonials to Mr. G. Yarwood, F.R.I.B.A., The Barnsley British Co-operative Society, Ltd., Twibell Street, Barnsley. 9360

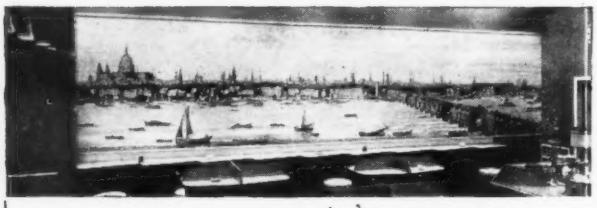
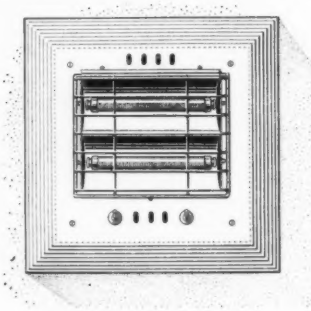


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ARCHITECTS' ASSISTANT wanted in busy office. Apply, stating experience, age and salary required, to Quick & Lee. Chartered Architects, 116, Dale End, Birmingham, 4. 9648

S. MORRISON AND PARTNERS require ASSISTANT ARCHITECTS of all grades for interesting and responsible work in various spheres. 5-day week. Please state experience and salary required.—St. Alkmund's House, Belper Road, Derby. 9631

ARCHITECTURAL ASSISTANTS, all grades. Small, expanding practice with opportunities for capability.—Knapton & Deane, 6 Martin Lane, E.C.4. Mansion House 6281. 9516

ARCHITECT'S ASSISTANT required in Exeter office. Write, giving experience and salary required, Box 9513.

ARCHITECTURAL ASSISTANTS and DRAUGHTSMEN required to work in Wimbledon Office and in Central London. Commencing salary £600 to £750 p.a., according to age and experience. Five-day week, pension scheme, luncheon vouchers. Telephone LIB 1189 for appointment. 9481

ASSISTANT, preferably qualified with some office experience, for important work in London. Salary £700—£1,000 according to age and experience.—Box 9426.

ARCHITECTS, preferably with some experience in hospital planning and construction, are invited to apply to Pite, Son & Fairweather, 6, Queen Anne's Gate, Westminster, S.W.1, for a senior appointment carrying considerable responsibility in design and administration. 9488

ARCHITECTS, SENIOR ARCHITECTURAL ASSISTANTS required immediately for a wide variety of work. Salary range £700—£975 per annum. Superannuation scheme. Application should be made in writing to Kenneth F. Masson, A.R.I.B.A., Chief Architect, S.C.W.S. Ltd., 76, Morrison Street, Glasgow, C.5. 9491

GENERAL ARCHITECTURAL ASSISTANT required for nationally large scale housing development. Duties will include preparation of full working drawings and preference will be given to applicants who have had similar previous experience. Application should be addressed to Personnel Department, Taylor Woodrow Ltd., Ruislip Road, Southall, Middlesex 9496

ARCHITECTURAL ASSISTANTS required, Intermediate standard. Scope for use of own iniative, and varied experience in practice including hospital, ecclesiastical, industrial, domestic and general work. Good draughtsmanship essential. Housing accommodation may be available. Apply, giving full details including salary required, to:—H. Anthony Clark, F. C. Roberts & Partners, Chartered Architects, 41, Regent Street, Wrexham. 9452

ARCHITECTURAL ASSISTANTS required; varied work. Write, stating age, training, experience, present salary, all interview expenses paid, G. de C. Fraser, Son & Gearey, Chartered Architects, 27, Dale Street, Liverpool. 9362

RONALD WARD & PARTNERS require several ARCHITECTURAL ASSISTANTS with contemporary outlook and willing to use own initiative. Salary range £500 to £800. Interesting and varied work, home and abroad. Congenial working conditions. Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3361. 9189

SENIOR ASSISTANT to take charge of contracts, also Intermediate Standard ASSISTANT, required for varied and interesting contemporary projects. Apply John H. D. Madin, Dip.Arch.Birm.A.R.I.B.A., 83/85, Hagley Road, Edgbaston, Birmingham, 16. 9323

ARCHITECTURAL ASSISTANT required of Inter. Standard, first-class draughtsmanship and office experience essential, mainly for domestic schemes in small, busy practice. Please apply in writing, stating salary and full particulars, to R. Jelinek-Karl, F.R.I.B.A., 22, Chancery Lane, W.C.2. 9321

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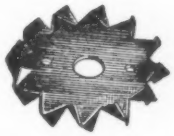
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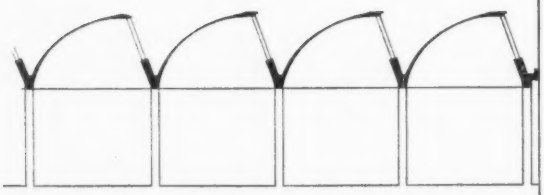
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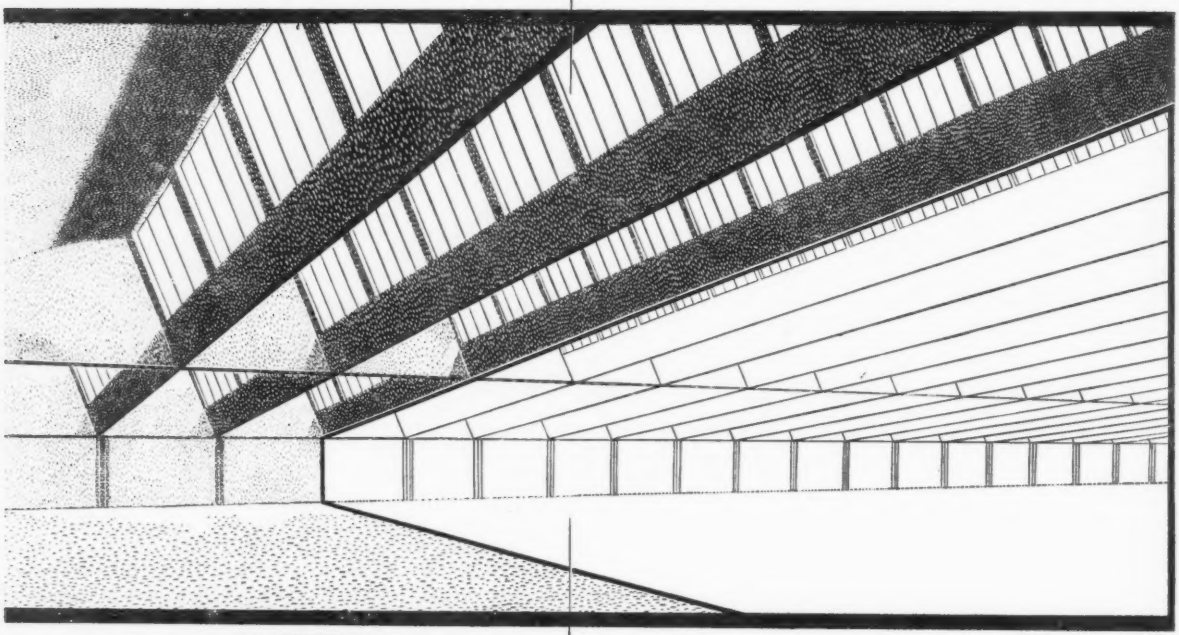
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